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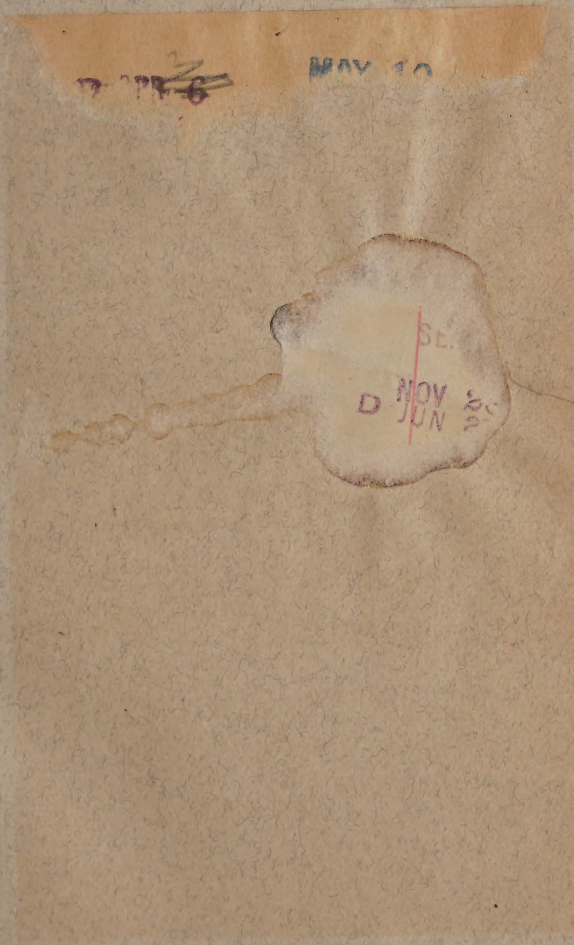

CHATS TO 'CELLO STUDENTS.

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ARTHUR BROADLEY.

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CHATS TO 'CELLO STUDENTS

BY

ARTHUR BROADLEY

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PREFACE.

In introducing this little work on Violoncello Playing, a few words of thanks and explanation are perhaps necessary. My thanks are due to the professional friends, and students—and also to others with whom I am not personally acquainted, who have spoken or written concerning the benefit they have derived from the study of the "Chats" during the serial "run" in The Strad. It is a great pleasure to find that through the perusal of these crude literary efforts, some few have derived pleasure or assistance—that some difficulty has been made easier of mastery.

An explanation will assist any who fail to realize the limitations and intentions of a work of this description. In the first place it is impossible to thoroughly exhaust the whole science and art of 'cello technique and 'cello playing; recognising this, it has been my aim to draw on my own experience as a teacher of the instrument, rather than follow in the trail of any existing work. With respect to the intentions of the work, nothing can equal *viva-voce* instruction and the personal supervision of a good master, but it is to be feared that many who are really talented cannot afford lessons from anyone who is thoroughly capable of directing their studies—it is this class of player who will derive the most benefit from a conscientious study of the ensuing pages; may the instructions contained therein, direct and stimulate him to that which is good and artistic.

ARTHUR BROADLEY.

Bradford, Yorks.,
January, 1899.

CHATS TO 'CELLO STUDENTS

CHAPTER I.

PRELIMINARY REMARKS—THE 'CELLO DIFFICULT TO MASTER—THE CHOICE OF A TEACHER—CHOICE OF AN INSTRUMENT AND BOW.

SEVERAL works of more or less excellence have already been written on the violoncello and its study. It is all the more difficult then to write a work treating on the whole subject of 'cello playing, without in some measure going over the ground that has already been covered by previous writers. As I have found, however, that certain branches of this interesting study have received but scant treatment, and in some cases have even been completely ignored, I have directed my special attention to these subjects; thus, much that has been passed over in existing works will be found to have here received due treatment. Throughout the whole of the present work, I have endeavoured to clothe the matter in as original a manner as possible, and putting aside all stereotyped phrases, have tried to write in the same language that I would express myself in to a pupil having a course of actual lessons.

If by so doing, anything that the student may have passed over as being unimportant, now forces itself upon him, my aim will be accomplished.

In various parts of the work I have endeavoured to introduce the reader to some of the higher branches of

'cello playing, as far as it is possible through the medium of literature, but it must be understood that any treatise on the higher branches of music can only be of a general character, the laws which govern musical expression, or those in connection with the delivery of a musical composition are so fugitive, and players vary so much in the observation, or disregard of them, according to their individual temperament, etc., that to give any hard and fast rules would only be to put fetters on all individuality.

If the student is really musical he will obtain the best results in this direction, by hearing our first class artists interpret the works of the great masters : by thus bringing his faculties of observation and imitation into use, he will gradually absorb some of their style, which in due time will assert itself in his own performance.

The 'Cello a Difficult Instrument to Master.

If the reader has already commenced the study of the 'cello, it will be advisable for either his parents or himself to make direct enquiries of his professor, whether the latter thinks the pupil is sufficiently gifted to continue the study of this most difficult instrument. Of course every 'cello player cannot be a Becker or a Klengel, but unless the student has a very correct ear, and if he is old enough a fair amount of ambition, it would be better for him to study some less exacting instrument; that is if he feels compelled to learn something. The piano is generally supposed to be the fall-back classical instrument, but I would not recommend this, we have quite enough piano playing of the second and third and the atrocious order, without violin and 'cello cast-offs trying their hand at it. I do not know of a more pathetic sight, than to see a youth with no musical gifts whatever, wasting the best years of his life, and his—or his parents'—money, in the study of an instrument for which he has no natural capabilities.

Perseverance, although a very estimable gift, never yet by itself made an artist, the real artist is an artist

because it is impossible for him to be anything else. Nevertheless if the pupil can feel assured that he has a fairly fine ear, capable of easily distinguishing the difference in musical pitch, and a natural feeling for rhythm, he will be justified, providing he likes music almost better than anything else, in taking up the study of an instrument, which for solo work ranks with the violin for difficulties.

The Choice of a Teacher.

The pupil is caused to suffer much inconvenience and perhaps even spoiled altogether for any real artistic work, if his early studies are not directed in an efficient manner. One smiles when one sees an advertisement in a local morning paper after the following fashion. Mr. ———, Professor of Music. Lessons on Piano! Singing! Violin! 'Cello! Guitar! and Zither! also French! and German! All one man, remember, not half-a-dozen, and yet learned as he evidently is, I would not trust him to show a pupil how to hold his bow correctly. If the student resides in or near London, he will obtain better results, and in the long run will find that it costs him less, to connect himself with one of the recognised institutions, such as the Royal Academy of Music or the Guildhall School of Music. To be recommended by one of these institutions is to obtain the passport into the highest musical circles. In the provinces the choice of a good 'cello teacher is not so great, the reader will do well to remember that being a member of some fairly well known orchestra, is not always a guarantee of excellence, sometimes influence, or money, or perhaps both have been the means of obtaining the coveted position. The student will do better then to have lessons from someone who is known to be a master of his instrument, and if it should happen that the teacher is a better player than an exponent of the art of 'cello playing, if the student carefully watches his style, and hears him play often, he will at least learn how a composition ought to be performed, even if he is

compelled to find out for himself how the mechanical part of its production is accomplished. I know one of our first class teachers (violin) who seldom takes the instrument into his hands during a lesson, contenting himself with verbal explanations; this, unless the student is above the average standard of intelligence can never be productive of really good results; practical demonstrations generally being far more effective than mere talk. The pupil then must see that his teacher can play the exercises which he teaches, and should the teacher make any objection to exhibiting his skill in this fashion, depend upon it that the lack of it has a great deal to do with it.

The Choice of an Instrument and Bow.

Do not let my reader imagine that in the present work I am going to weary him with a long discourse on a matter which is so much controlled by the length of the purse; I flatter myself, however, that the advice will at least be sound. To those who can afford to buy a real genuine Cremona of good name, I have nothing whatever to say; if they can afford this, they can, or ought for their own satisfaction and safety, to pay for professional advice as to the real merit of their purchase. It is to the readers with a limited amount of spare capital that I wish to address myself, and I would tell them that there are a lot of fairly old instruments either German or French copies of one or other of the early Italian School, that will be found quite good enough for solos. These instruments may have individual faults and weaknesses, but the player will gradually find these out and learn to humour them. Of the old English instruments I would advise the reader to beware, a lot of them although of good wood and passable varnish, yet manage to have some more or less irreparable fault not readily discernible at first sight. An instrument of this class I have in mind, a beautiful 'cello spoiled with the *f* holes being cut about half their length too low, making it impossible to play a forte passage on the A string

owing to the bow coming in contact with the lower corners; so that this would not be readily noticed a fingerboard had been fitted, which was about three inches longer than is usual. Others are thin in the wood, causing wolf notes in various positions. These latter remarks refer more particularly to nameless old English instruments of the home-made type, and of course do not apply to the best work of such makers as Forster, Banks, Thompson, Joseph Hill, etc., many specimens of which have a particularly fine tone.

To the young player buying an instrument for life, if upwards of £15 can be given it is far better to purchase an entirely new one of good make, of a model suited to the individual taste of the student; by the time he has worked some ten or a dozen years on it he will have brought out most of the beauties of tone which the instrument is capable of giving. A really good new instrument improves more rapidly than is generally admitted—with good hard exercise work in all the positions.

In choosing a bow Dodd and Tourte are names to conjure with, but happily there are no lost "secrets" in the art of bow making, and fortunately a new bow after a few weeks use is better than an old one, therefore the craze for old bows except with collectors and rich amateurs, will never be so pronounced as is the case with old instruments. If the student can pay say a couple of sovereigns, he must consider himself tricked if he does not secure a bow good enough for any sort of work, and one which will with care last for years.

I have lately come across some French bows without any name, retailed, I believe, at about thirty shillings, which are very fine indeed, nice and light with plenty of spring. Some recommend a second-hand bow, saying that in buying one that has been used the faults, if any, will have made their appearance, but as it is hardly possible to tell whether a bow has been much used unless the stick is very badly worn, this is hardly sound. Buy from a conscientious dealer, pay a fair price and trust to it, that is all that can be done.

CHAPTER II.

How to Hold the Instrument—The Attitude of the Player—The Use of a Sliding Pin Recommended—Correct Way of Holding the Bow—Some Incorrect Sketches of Same.

Attitude of the Player.

MOST pupils are surprised I have no doubt, at the evident discrepancy seen in the plates usually published with 'cello schools, when compared with the manner in which our first class artists hold their instruments. I will endeavour in some measure to explain this away.

The correct way to hold the 'cello if the instrument is not fitted with a sliding pin is as follows. The player to sit on the front part of the chair with the feet advanced, the left a little more forward than the right. The 'cello to be held with the legs, the lower part of the front edge (table) of the instrument being held in position by the right calf—the edge of the back being supported by the left calf—the legs of the player not to cover the ribs of the instrument so that the vibration is not impeded. The upper part of the back to the right of where the neck of the instrument is fitted should rest against the chest of the performer, this will throw the scroll of the instrument a little to the left of the face. The instrument to be held high enough for the bowing to clear the knees of the player. The thumb to be placed in a horizontal position at the back of the neck of the instrument, and should be between the first and second

fingers. The left elbow not to be raised. This then is the *correct* manner of holding the 'cello. If the reader will look at the plate which is published with either the Kummer or the Seb. Lee instruction book, he will find that the figure there agrees with the foregoing rules in every particular.

If the student makes use of a sliding-pin these instructions cannot be observed in every respect, the legs are not required to hold the 'cello, the left knee alone being brought into use as a slight support—not to hold the instrument from the ground, but to prevent it from rocking backwards and forwards.

In this matter I would like the student to understand that attitude does not assist in the production of music, but do not let the reader imagine that if unnecessary posing does not help, awkward and uncouth positions of the players do not take away from the effect. Anything which distracts the attention of the audience from the music should be rigidly avoided; awkward attitudes, and grotesque motions of the head and body should therefore be instantly suppressed by the teacher or the private friends of the student.

Piatti, who does not use a 'cello peg, holds his instrument in a correct manner, not shuffling about or varying his position. Now if the reader ever has a chance of hearing Van Biene, let him observe the manner in which that artist holds his 'cello. We have here the two extremes; as Piatti is of the strictly correct order, Van Biene is of the exaggerated artistic order, all the time he is playing constantly striking some fresh attitude. If Van Biene had again to take to concert work, I have no doubt that he would calm down a little in this respect, his exaggerated style while being very effective on the stage, would not be tolerated on the concert platform. By all means let the student use a sliding-pin, but let him take advantage of the greater facilities which are offered, to make his attitude more artistic, always adopting the happy medium in *this* matter at least, correctness—without awkwardness, artistic grace

—without unnecessary vain posing. As a first class elocutionist seeks by attitude to help the effect of his

FIG 1.

words, not to distract the attention of his audience, so the attitude of the 'cellist must be pleasing and easeful.

If the student will compare (Fig. 1) with the plates usually published with 'cello schools, especially the two previously mentioned, he will see the importance of the matter.

How to Hold the Bow.

There can be no departure from the acknowledged way of holding the bow if the best results are to be obtained, that is to say, that the rules must be strictly observed as far as the individual shape of the hand will allow. It will be observed that the nut of the 'cello bow is scooped out on the inner side, which forms two projections, one of these, the lower one, is surrounded with metal through which the hair of the bow passes, the upper projection fits against the stick. The extreme tip of the thumb should be placed on this upper projection (Fig. 2) so that it is also partly on the stick, the thumb

Fig. 2.

being assisted in holding the bow by the second and third fingers. The second or middle finger is so placed that the tip touches or overlaps the hair close to the lower projection; the third finger falls naturally into its place next to the second finger, and has its tip touching

the metal, or silver ferrule on the lower projection (Fig. 3). These two fingers and thumb are all that are

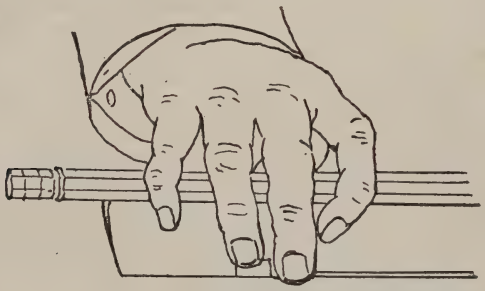


FIG. 3.

required to hold the bow, the fourth finger serves to balance the bow and should be placed lightly on the stick, its chief work being to prevent the bow dropping too much when playing at the heel, and to ease the pressure on the strings in very light passages. Last but not least comes the first finger; this is the member which is responsible for quality and quantity of tone, it should have a slight bend round the stick, and so that the other fingers do not interfere, it should be placed slightly apart, this also helps to bring out a louder tone if required. The first finger like the fourth is not compelled to remain stationary, thus in long semiquaver *sautillé* passages, where the extended position of the first finger would interfere with the natural spring of the bow, it should be made to relax its pressure and take a position nearer the second finger; again in long sustained heavy notes the first finger may be extended slightly, so that more pressure may be put on the bow. These last remarks are most important, as the whole success of the student's bowing rests on the correct use of the first finger, and the proper position of the thumb. I cannot quit this subject without mentioning the importance of having the muscles, especially the tendons on the back of the hand, perfectly easy when the bow is in position.

To allow this, the knuckles must not protrude in the least, the fingers also help by being allowed to bend easily at their middle joints, the upper phalanges having an almost horizontal position over the bow (Fig. 2). The wrist is more rounded when playing near the heel than at the tip, and also when playing on the lower strings. Without the aid of an Edison Cinematograph, it would be impossible to demonstrate pictorially the action of the wrist, form-arm, and upper arm during the transit of the bow from heel to tip, and on all the four strings, but if the preceding instructions are carried out the bow will at least be held properly. Although my remarks may seem rather drawn out on this subject, from my own personal experience I may say that could I have had this knowledge imparted to me a couple of years earlier than was the case, much unlearning and relearning at more than double the expense would have been saved. To the student who is in possession of the Seb. Lee instruction book, I would remark that the position of the thumb as shown in the plate superscribed "Position de l'archet" (Fig. 2) is decidedly misleading. It is impossible to have the thick fleshy part of the thumb near the first joint, grasping the nut as there shown, without having the fingers stiffly extended, and the knuckles protruding; a position which I wish the student to guard against.

CHAPTER III.

General Knowledge—Eccentricity not Necessarily a Mark of Genius—Musical Notation—Common Errors with Respect to the Actual Position of the Various Clefs—Tenor Clef indispensable to the 'Cellist.

General Knowledge, etc.

THE general education of the student must on no account be neglected, in prematurely or unduly developing his talent for 'cello playing. The life of a musician is distinctly social, and it should be the aim of all aspirants to the title of artist, to fit themselves for the society into which it is likely their professional duties will take them.

It is well known that some people believe that musical talent can only be in a high state of cultivation, at the expense of every other branch of learning; the term virtuoso in their estimation being synonymous with ignorance or even vice. Others even go so far as to imagine that all great musicians are in a more or less state of imbecility, and no matter how much they may be encouraged when on the concert platform, if invited to a private social function would only be tolerated for their musical capabilities. In a great measure this has been caused by some few artists who have thought to add to their popularity by assuming in their demeanour, eccentricities of the Paganini type.

In these days of much education, it is almost essential for the violoncellist who hopes for only ordinary success, especially as a teacher, to be well grounded

in several secondary subjects, as well as in 'cello playing. Besides an ordinary English education, the following are the most important, Theory of Music, Musical Form, a slight knowledge at least of Harmony and History of Music, and for teaching purposes, if not for his own edification, a smattering of at least two modern languages, say French and German; even if the instrumentalist only knows the correct pronunciation of musical terms in these and similar languages, much blundering will be saved. To all this should be added a complete knowledge of the construction of the violoncello, and also its most well known makers, together with the period in which they worked.

The reader will perhaps be dismayed at so large a list of subjects, but as it is not necessary to teach every subject of which one knows a little, sufficient for one's own use may soon be learned, if a properly regulated course of reading be adopted. To accomplish this, it is much better to master an elementary work on each subject, than to skip through a more advanced treatise in an imperfect fashion. Messrs. Novello, Ewer and Co. publish some very useful little works on some of the above subjects. There is also a little book on Theory by Robt. Sutton (Robert Cocks and Co.) which will be found to be very useful for beginners.

The above and similar works should be the daily companions of the young student for the first few years of his pupilage.

Musical Notation.

With the help of the theoretical works mentioned previously, the student will soon learn the various clefs, key-signatures, rhythms, and scale forms, etc. My remarks will be confined to various peculiarities in the clefs used in 'cello music, and I shall also try to explain away some of the difficulties over which learners generally stumble. The violoncellist ought to be happy in the knowledge that his music is written for him in at least three clefs; but on the contrary this very abundance, to many, is a great annoyance. The funda-

mental clef in 'cello music is the bass clef its range as far as the 'cello is concerned, if from C, two leger lines below, which is the C open string of the 'cello, to C, leger line above. However, for clearness and simplicity in reading, the range of the bass clef is extended by means of leger lines as far as A, an octave higher than the top line of the clef. The bass clef seems to be the most easily learned, perhaps because it is generally the first to be tackled, differing greatly in this respect from the tenor clef, the latter clef sometimes having a damping influence on the young 'cellist's enthusiasm for a considerable period.

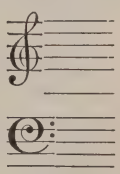
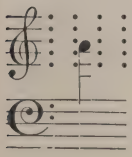
The tenor clef is generally used for passages on the violoncello, the range of which does not extend below the open D string, except for an occasional note or two, and upwards as far as C, or D, above the A half-string. This is a very useful clef, taking, as it does, the middle range of the instrument. Sometimes whole compositions, especially if of a cantabile nature, are written entirely in the tenor, and I am pleased to say that it is now becoming more known, and is more used by composers than formerly. In passing it is perhaps interesting to observe that the notes in the tenor clef, are exactly a fifth higher than if written in the corresponding positions in the bass clef. Some players use this as a kind of help, when playing in the tenor clef, reading the notes as if they were in the bass, but playing them a string higher; thus, a passage commencing on the first line, tenor clef, would be read G but played open D string. These short-cut helps as a rule are not much to be depended upon, and generally are the result of the inventive faculties which seem to be a special gift to the lazy. Each clef should be made to have a separate existence in the mind of the player, or hesitation and confusion are sure to result.

The treble clef is also much used in its proper pitch in modern 'cello music; the old masters instead of writing in the tenor clef, wrote the high passages in the treble, the notes to be played an octave

lower than represented. In playing from early editions, the violoncellist must be on the alert for this, as some of the passages written thus would not sound well even if they could be played in their proper pitch.

The student should thoroughly understand the relation of each clef to the great stave; until he is decided on this simple matter, he will be much troubled with the relative pitch of the tenor clef, treble, etc.

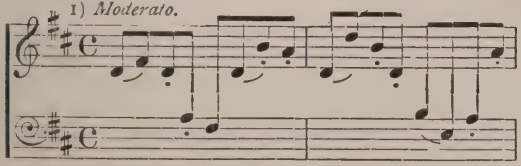
The great stave is composed of two sets of five lines each, with an intermediate line. This intermediate line belongs alike to the treble and the bass clefs, that is to say, it forms the leger line below the treble, and also the leger line above the bass. Young students generally think that above the bass clef comes the tenor, higher up still the alto, and above all; the treble clef, whereas all four clefs are part of the great stave.

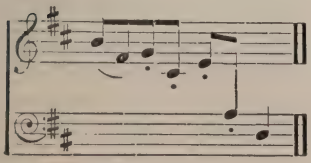


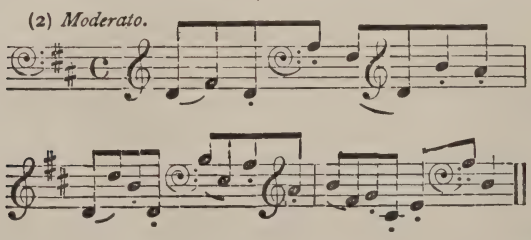
As before stated it is usual to carry the bass clef as far up as A above three leger lines, this is really the treble A, and not an octave lower.

The following passage will show the necessity for this, and also the need of an intermediate clef, between the bass and treble.

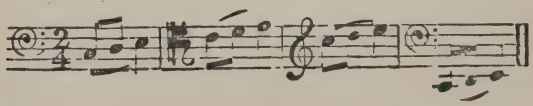
1) *Moderato.*





Any pianist of ordinary ability would be able to play the above passage at sight, without the slighest difficulty, and according to theory it is correctly written. Now, if written for the violoncellist in one stave, according to the same rules, it would be extremely difficult to read at sight, the abrupt changes of clef being very confusing.

It would be possible to write this passage entirely in the tenor clef, using only three leger lines above.

In certain passages the introduction of the various clefs in rapid succession, materially assists the player to determine the pitch of the intervals, as



It will hardly be interesting to the violoncellist to pursue the subject further, its continuation applying more particularly to composers and music copyists, than to practical musicians.

CHAPTER IV.

EARLY ATTEMPTS AT 'CELLO PLAYING—FIRMNESS IN FINGERING—THE LEFT HAND—CORRECT METHOD OF PLACING THE LEFT-HAND FINGERS.

EARLY EXERCISES.

THE first attempts at 'cello playing must be made with long, smooth bow-strokes, care being taken to have a nice even tone from heel to point; great vigilance is here required on the part of the master, in observing that the motion of the arm and wrist is correct.

The pupil must not think that practising these long, slow bowings is a waste of time, it is the only way to obtain a good round tone, and afterwards, when whole bows are used for a quicker tempo, a command of the bow.

In practising studies in detached crotchets after the style of Ex. 1, Dotzauer, op. 120, or Ex. 1, Schroeder, op. 67, great firmness is required to stop the bow suddenly at the point; *even* pressure must be brought to bear on the bow, accompanied by great rigidity of the thumb. If the exercises previously mentioned, and similar studies are practised in this firm, detached, manner, it will prevent that "groping" for the note, a bad habit which the young player speedily contracts if not watched. The student being compelled to make a short pause between each note, will allow time for the hand to move into position, and the fingers to be firmly placed, before the bow is again set in motion.

The Left Hand.

To a great extent the work of the left hand is mechanical, and like everything which is mechanical in true art, must only occupy a secondary place. This is particularly true about the elements of fingering, *i.e.*, placing the fingers on the strings in the proper manner, fingering the intervals in tune, etc., but does not apply to the close shake, gliding and various vocal effects obtained by changing the fingers on one note, or playing passages up the strings in various positions, which might be executed in a more ordinary way. All this is high art, and helps to reveal the true artist by his manner of introducing the beautiful effects caused by the means previously mentioned. However, to consider fingering pure and simple, a 'cello player of the first rank does not constantly think about his fingers, his mind is occupied with the phrasing and the correct interpretation of the composition. A good knowledge of the fingerboard is best learned at the instrument, no amount of diagrams or lengthy description of chords in the various positions, etc., being of much use in real work. The violoncellist has quite sufficient to think about without carrying diagrams of the positions in his head, even the old method of pasting such diagrams on the fingerboard of the instrument must be denounced, as this only causes the student to watch his fingers, a most objectionable habit. But again, a good player would be able to instantly place the position of any playable chord on the violoncello, or would be able to tell the sound effects of any two or more notes played in any position. This knowledge must come with practice, or it will take no small amount of trouble to make the theory fit the instrument, especially in quick passages at sight. The only way to obtain this mastery of the fingerboard, is by always adhering to one way of fingering, when practising scales and exercises. If a passage of extraordinary difficulty presents itself, stop and analyse it, then decide upon some way of fingering. Whether the best way will be adopted is another

matter, and a matter in which our first class artists disagree, but the chief thing is to adhere to the fingering adopted.

The fingers must be firmly placed on the strings; to allow this, and so that the tips of the fingers are used, the joints must be bent outwards. This will allow the fingers to fall and rise like little hammers; and also if properly accomplished, will cause the strings to pass under the centre of the tip of each finger, in an almost parallel line with the tip edge of each finger nail. A very important rule, is to have as many fingers placed on the strings as possible, thus when playing the fourth finger, do not have the other three pointing upwards in as many different directions, they should be placed in semitones on the string, ready for use if a descending passage happens to follow. In some cases of vibrato, and always when playing harmonics, the fingers behind the one used must be kept off the strings; even then it is advisable to have them only slightly raised, and bent ready for use. In descending passages as previously hinted, the fingers must be placed simultaneously on the strings, the necessary fingers being raised as the passage proceeds; the student will find it rather difficult at first to place the fingers in tune behind the one actually played, but constant practice will accomplish this.

CHAPTER V.

General Remarks on Bowing—A Useful Method of Combining Scale Practice with the Study of Various Bowings—Smooth Bowings—Crescendo—Diminuendo—The Slur.

Bowing.

THE student should always strive to produce a beautiful pleasing tone from his instrument. Rapidity of execution can be acquired with downright hard work, but great skill, prompted and controlled by a fine sense of tone quality is necessary to obtain a full tone, without it partaking of a hard, forced quality, or accompanied by scraping so pronounced as to be most unpleasant except perhaps to people at a great distance from the player. To acquire this skill, and also in some measure to educate the ear to the various tone-colour effects which are possible on the violoncello, much thoughtful practice is necessary. The student must not only *know* the correct movements which the hand and arm are to make in performing any particular style of bowing, but with much practice, he must so develop the muscles of his bow-arm, that they respond instantly to effect the slightest change in the amount of pressure required for the different degrees of sound-volume, or for the various parts of the bow used.

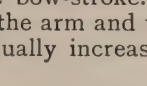
Eventually it will be found that it is possible to produce a complete change in tone-colour, which will prove a great relief to a continued tone of one character.

Thus by using a whole length bow, without any pressure for a note of a certain description, the quality of tone produced will be far different to that obtained by using half the length of bow, with pressure applied to make up the sound volume. This and other changes in tone-colour will gradually unfold themselves to the student, if after thoroughly mastering the correct way of holding the bow, he practises the following bowings according to the directions given.

Various Bowings Applied to Scale Practice.

It is a mistake for a young player to imagine that after he has once "been through" the scales with his teacher, he need never bother himself about them again. When the major and minor scales in three octaves can be played from memory, it will be found to be of great assistance in keeping the intonation correct in all the keys, to adopt a system of daily scale practice. The number of scales taken each day must depend upon the amount of time which each student has at command; it is advisable, however, to be content with one kind of bowing each week, and even longer may be devoted to bowings which are difficult to master, or in which the student happens to be backward. The advantage of studying the various bowings after this method, is that the attention of the student, not being occupied with reading the music, can be fully directed to the management of the bow.

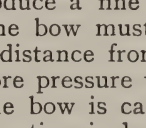
Smooth Bowings.

(Ex. 1) 

The scales in semibreves, must be played with whole bowings. The student should endeavour to produce a clear, round tone, which must be of *even* volume throughout the whole bow-stroke. To accomplish this, a correct motion of the arm and wrist is necessary, the first finger must gradually increase the pressure on the

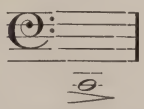
bow as the head is reached, being again relaxed as the bow is pushed to the heel; to apply the necessary pressure without causing any inequality in the tone, is the secret of fine legato playing. To change the stroke of the bow requires the assistance of the wrist and fingers, thus, in the down stroke when the bow is within a couple of inches from the head, the movement of the arm ceases, the hand moved at the wrist continues the stroke, and also reverses the bow for the up-stroke. In the up-bow the rounded position of the wrist when the heel is approached, will not allow of an exactly similar movement; to accomplish a neat change of bow-stroke at the heel, it is necessary to let the fingers *give* slightly, which allows the bow to be carried forward about an inch, and the stroke reversed after the arm movement ceases. These slight wrist actions are required to prevent a peculiar kind of scrape being heard, this sound, although permissible, and even necessary in certain kinds of bowing, is most objectionable in smooth legato playing. To prevent any harshness in the tone, the pressure on the bow must be nicely regulated at the change of stroke.

(Ex. 2)

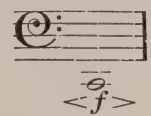


To be able to produce a fine crescendo is a grand accomplishment. The bow must be lightly placed on the strings at some distance from the bridge; as the stroke proceeds, more pressure with the first finger is gradually applied, the bow is caused to approach the bridge and at the same time is drawn more rapidly. In performing a crescendo passage with the down bow, the strongest possible pressure must be applied as the bow is drawn to the point. The gradual swelling from *piano* to forte, must be accomplished without any break in the tone being perceptible; a great amount of practice

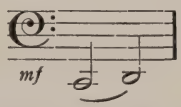
is necessary to give the ability to produce a full round tone at the forte, without a disagreeable hardness in tone-quality.

(Ex. 3) 

In a decrescendo the reverse action takes place. The bow is placed very firmly on the strings near the bridge, great pressure being applied. As the stroke proceeds the pressure is gradually withdrawn, the bow moves more slowly, and approaches the fingerboard.

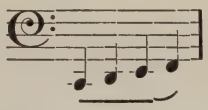
(Ex. 4) 

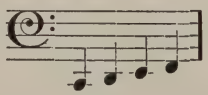
The effect of Ex. 4 is a combination in one bow of the crescendo and decrescendo effects given in bowings 2 and 3. The bow must be used very sparingly at the crescendo, so that sufficient may be left to sustain a bold forte, for the middle of the semibreve, and also to allow the tone to be gradually diminished. The student cannot devote too much time to the study of this difficult bowing; if properly mastered, great command of the bow, in a slow bow-stroke, will have been obtained.

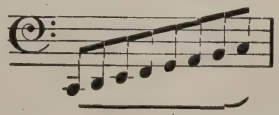
(Ex. 5) 

Scales played with two minims slurred (Ex. 5) should have whole smooth bow-strokes. In approaching an open string, care should be taken to prevent any break in the bow-stroke, or any roughness being perceptible. The open string should first be caused to vibrate with the friction of the bow, the pressure then being applied.

Equal divisions of the bow are necessary for each minim, the bow being lightly placed at the heel, with slightly increasing pressure, as the point is neared; this is required to keep the tone-volume equal with that produced at the heel.

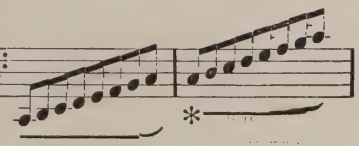
(Ex. 6)

Four crotchets slurred, are to be played with the same kind of bowing as Ex. 5, but here there are four notes to one bow-stroke. Each crotchet should have its full time value allowed, and the stroke should be equally divided, so that each note gets about a fourth of the bow. Equality of tone, and smoothness are the chief characteristics of a good performance of this and all similar slurred bowings. There should not be the slightest break between each crotchet, one note only being left off as the next is sounded.

(Ex. 7)

Smooth detached crotchets may be played with the upper half of the bow. In this style of detached bowing, each note must be approached and left without any roughness, a clear division of the notes being suggested rather than any decided break made. When moving from one position to another, no gliding is allowed, each note separate, but smooth.

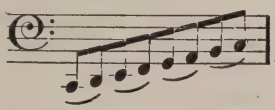
(Ex. 8) 

In Ex. 8 the whole octave is played with one bow stroke. In scale practice, it will be advisable for the student at first to repeat the tonic, so that a proper sense of the correct phrasing is felt, thus—

(Ex. 8*a*)

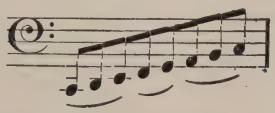


(Ex. 9)



Various divisions of slurred quavers may be practised, where each group contains the same quantity of notes, the same length of bow-stroke must be given each slur. Ex. 9 should be played with the upper third of the bow. The student should not acquire the habit of making the second quaver shorter than the first; each note must have equal duration. This bowing may also be practised with the middle third of the bow.

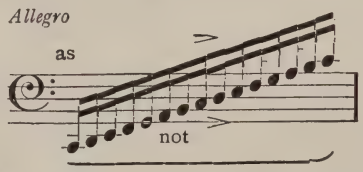
(Ex. 10)



Where one group contains more notes than another, it is not always advisable to use the same amount of bow for the smaller slur. To preserve the same tone-quality throughout in Ex. 10, it should be bowed as follows:—Place the bow on the strings near the heel; for the first three quavers, draw it just beyond the middle, then give the two tied quavers an up-stroke, using about a third of bow; for the remaining three quavers, draw the bow quite to the point. The octave

higher commences with an up-bow, the action being exactly reversed until the heel is reached.

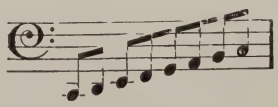
(Ex. 11)



In playing two octaves slurred, besides observing all that has been written concerning smooth slurred bowings, the student must be careful to adopt a proper system of phrasing. It is perhaps advisable in scale practice to suggest in the phrasing, the commencement of another octave. This may be accomplished by dwelling slightly on the leading-note (in this case B), or by accenting the tonic of the upper octave.

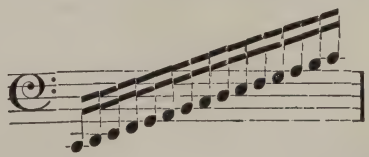
Whatever method is adopted, must not be such as to seriously disturb the even run of the semiquavers.

(Ex. 12)



Detached quavers should be practised with the upper third of the bow, in the same manner as the crotchets in Ex. 7. The wrist is assisted by the fore-arm.

Ex. 13)



Smooth detached semiquavers should be played with the point of the bow, using the wrist only. They may also be played with the middle eighth of the bow, but if a very smooth performance is desired, it is better to keep near the point. This prevents the bow from getting

a springing movement, and causes the notes to be "rubbed" out of the instrument. Much practice is necessary, to get the fingers of the left hand to work in sympathy with the movements of the bow. The fingers must be pressed firmly on the strings, at first the student must exert himself to put forth the necessary pressure, afterwards, when the muscles of the fingers are fully developed, this will be done unconsciously. When playing in the middle of the bow, care must be taken to prevent any scraping sound being produced by too much pressure on the bow, or by not regulating the pressure when reversing the bow-stroke.

CHAPTER VI.

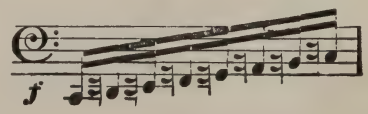
BOWING CONTINUED—MARTELÉ—DETACHED STROKE—MIXED BOWINGS—THE VARIOUS DIVISIONS OF THE BOW.

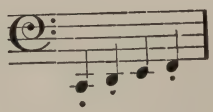
STRUCK DETACHED BOWINGS.

Allegro

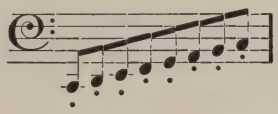
(Ex. 14)

THIS style of bowing (Ex. 14) is known as *martelé*. It consists of a smart heavy stroke, with the upper third of the bow. The bow is stopped suddenly at the end of each stroke, without allowing the pressure of the first finger to relax; the bow stroke being suddenly checked, causes the abrupt stoppage of the smartly vibrating string, and allows a short pause to be made between each note. The effect might be represented thus:

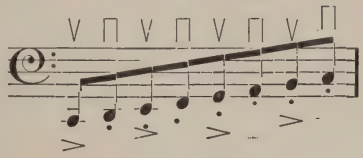
(Ex. 14*a*) 

(Ex. 15)

Short detached crotchets may be played with the upper half of the bow. The stroke must be made smartly, without any real gap between the notes. The bow should seem to pass quickly and smoothly over the strings, the tone being produced by friction, rather than any pressure which the first finger may exert. The scales in crotchets may be played with *martelé* bowing, using whole bow-strokes as previously explained in the remarks on early exercises.

(Ex. 16)

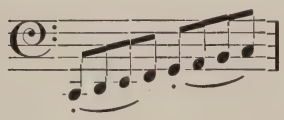


Short detached quavers should be played with the upper third of the bow. There are numerous examples of this kind of bowing in the studies for violoncello, by Kummer, Dotzauer, etc.

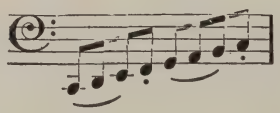
(Ex. 17)

This is an exceedingly difficult kind of bowing, but if well executed has a very brilliant effect. To produce the sforzando note with the up stroke, the bow should be lifted and thrown on the string with force, care being taken to do this close to the point, or instead of a sforzando note, a series of bounces will result. The balance is preserved with the fourth finger, which also assists in raising the bow from the string for the next sforzando note; the quaver with the down stroke should be played smartly. It would be unwise to use a gold mounted Tourte, in the first attempts at this bowing, as

it is possible to seriously damage the bow if not executed with skill.

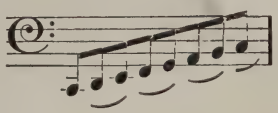
Mixed Bowings.

(Ex. 18) 

This bowing is performed by commencing at the middle of the bow; with a smart, light stroke, draw the bow to the point, the three quavers played very smoothly take the bow back to the middle.

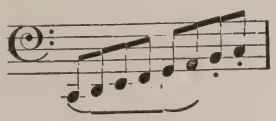
(Ex. 19) 

The bowing in Ex. 19 has the phrasing just reversed, this bowing gives a very beautiful effect if nicely executed. For the three tied quavers commence at the middle of the bow, draw it smoothly to the point, then relaxing the tension of the muscles in the right hand, carry the bow smartly over the string, back to the middle. This light up-bow should be done without any pressure, and with the bow well under control.

(Ex. 20)

In Ex. 20 the first quaver receives a smart down stroke at the point of the bow. The slurred quavers

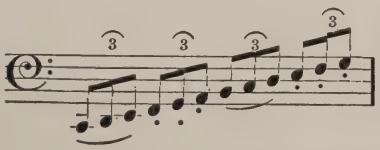
should all be of equal length, and on no account must the second slurred quaver receive any emphasis. If an accompanying part preserves the original accent, the effect is very pleasing.

(Ex. 21)



A large variety of mixed bowings may be invented by the student, after the style of Ex. 21. The chief object in practising such, should be to obtain a facility in using the various parts of the bow. Where groups containing the same quantity of slurred notes are separated by two, four, six, or any even number of detached notes, the slurred groups are played alternately with a down and an up bow-stroke, the detached notes being played first at the point, then at the middle or near the heel (as in Ex. 21), according to the length of bow-stroke required for the slur. If the slurs are separated by one, three, five or any odd number of detached notes, the bowing will be so arranged that the slur has always to be taken with the same kind of bow stroke: to allow this the necessary quantity of bow must be gained on one of the detached notes, this may be accomplished as in Ex. 22.

(Ex. 22)



The slurs are always taken with a down-stroke, using the upper third of the bow. The bow should be carried back, on the first detached quaver, which being the first note of a triplet, may be given a slight emphasis; the

two remaining quavers are played with a short wrist movement.

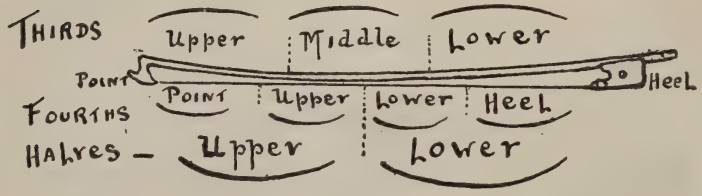


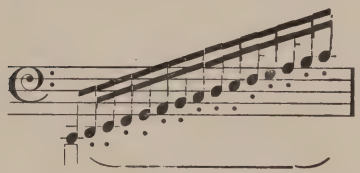
FIG. 4.

Before leaving the subject of mixed bowings, I would impress upon the student the necessity for the application of a good division of the bow's length, so that whatever variety of bowing presents itself, may be treated with the part of the bow, and in the manner most capable of producing the finest effects. The student should make a mental division of the bow into thirds, fourths, etc., see Fig. 4, the various divisions being designated as there shown, such as point fourth, heel fourth, upper third, etc. In the smaller divisions there given, the wrist may be assisted with a slight movement of the fore-arm, for purely wrist movements, a bow-stroke of about a couple of inches may be taken with any part of the bow, according to the requirements of the particular passage.

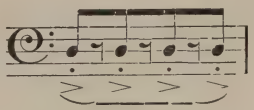
CHAPTER VII.

ON "STACCATO" BOWING — SPICCATO — SLURRED SPRINGING-BOW — VARIETIES OF PHRASING OCCASIONED BY THE PORTION OF BOW USED— SAUTILLÉ—DOTTED NOTES.

STACCATO.

(Ex. 23)

THE staccato bowing, if neatly executed, has a very brilliant effect; to obtain anything like mastery of it the student must first be careful to see that the bow is held correctly, and from the commencement, the bowing must be practised only in the recognised fashion, and according to the hints here given. If any movements other than those described are allowed, the student will find that he can never execute this difficult bowing beyond a certain speed, or if he does flatter himself in to the belief that he has arrived at a brilliant execution of it, on comparison it will be found that instead of the recognised bowing, it is one of the various kinds of trick staccato, often accomplished by a slight tremolo of the fore-arm or some such movement. The chief movement in the staccato bowing is distinctly a wrist-one, the first finger playing a great part in giving

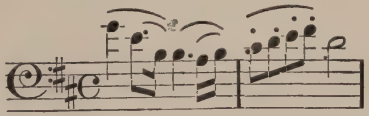
crispness and attack to each note. The initial quaver in Ex. 23, should receive a smart down-stroke with the upper third of the bow; as previously explained in the remarks on legato bowing, the hand carries on the stroke after the fore-arm movement ceases, causing the hand, when the bow is at the point, to be turned away from the player. This should be made the foundation of the staccato stroke. As the arm progresses slowly and steadily along for the up-stroke, the hand keeps pace by a series of short jerks; these are purely wrist movements, not being assisted in any fashion by the arm. It is of the utmost importance to have the hand, and wrist, in a proper position at the beginning of the series of up-strokes, if the hand is already turned inwards, how will it be possible to execute a wrist movement in the same direction? The first finger should press firmly on the bow as the hand moves for the attack of each note, this attack if analysed, will be found to be a modified kind of sforzando on every semiquaver; the notes are separated by relieving the pressure, and also by the short pauses between the wrist movements. An explanation concerning the pressure of the first finger is perhaps necessary; the pressure is not caused by the contraction of the muscles of the first finger, so much as by the weight caused by an inward turn of the hand, being brought to bear on the bow through the medium of the first finger.

(Ex. 24)

The first attempts at the staccato bowing may be made on one string, after the fashion of Ex. 24; about an inch of bow may be used for each quaver, taking care to produce the sforzando effect, which in an attempt at a slow tempo should be more apparent than in a quick staccato run.

The bow must not be allowed to leave the string, the release of pressure only allowing the bow to right itself in preparation for the "bite" on the next note. After the movements previously explained have been mastered, there is nothing further required for the production of a good effect in staccato bowing, except a complete command of the upper-half of the bow, in the sense of being able to produce a good tone, without unduly straining or fatiguing the muscles of the hand and fore-arm.

The staccato may be played with the down-bow, the wrist and arm movements being simply the reverse of those in the up-bow. It is better not to commence quite at the heel, as the tone there, unless great care and skill be exercised, is apt to be "gritty." It is possible to produce a very pleasing effect on the 'cello with this bowing, even in fairly quick passages; the bow should not grip the string too heavily, nor be allowed to drag, but should be carried lightly.

In slow movements, a class of phrasing is often introduced, which although expressed like the staccato, if executed as such, would entirely spoil the effect.

(Ex. 25)

The four slurred staccato quavers should be played with four down-bow strokes, using the whole length of the bow, each quaver receiving about a fourth; the division between the notes should be very slight, being caused almost as much by a slight accent on each quaver, as by the bow being actually stopped.

Spiccato, or Springing-Stroke.

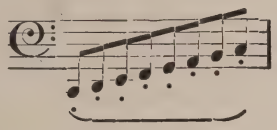
(Ex. 26)

The introduction of the springing-stroke in the interpretation of a composition, is left almost entirely to the discretion of the performer. It will be observed (Ex. 26), that the same signs are used for this, as for short detached solid bowings. Although this lack of clearness in our system of musical notation is to be regretted, one cannot help but think that this very general way of expressing the whole variety of detached staccato bowing, is really a gain to the artist. What is now admired as originality, and individuality in reproduction, would be considered an undue license or lack of skill, and thus it is, that out of the very incompleteness in our musical notation, or in the failure of composers to express the details of phrasing, etc., the freedom of interpretation is given, which allowing of such various treatment, forms the foundation of the different "schools," or styles in instrumental playing.

The springing stroke is suitable for any music of a light, playful character, although it should not be continued too long without the introduction of solid bowing as a relief. In practising the scales in quavers (Ex. 26), the bow actually bounces away from the string between each note, at the moment the bow is thrown on the string, the hand should move backwards, or forwards, so that sufficient tone may be brought out of the instrument. Regarding the latter, it will be evident to the student, that the action of the bow falling on the strings cannot alone set them in vibration; no matter how brilliant is the bowing, we must have some species of *stroke* or the result will be minus tone. To allow of the maximum tone being produced which is possible with such a slight bow-stroke, the hand may droop more than usual, causing the whole width of the hair to come in contact with the strings, this will also prevent any jarring sound being occasioned by the "wood" of the bow. To prevent a very scratchy performance, the bow strokes should be made exactly at the same part of the strings; taking care that the bow springs away

at right angles. The most useful part of the bow for the slow style of spiccato, is generally just below the middle; although for detached notes with long rests between, or intermixed with left-hand pizzicato, it may be accomplished with the point.

(Ex. 27)



SLURRED SPRINGING-STROKES.

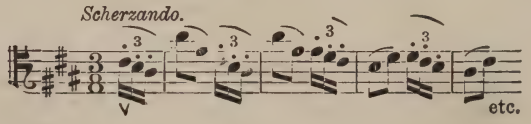
Slurred spiccato is very useful as a relief to the staccato proper.

It is performed after the same style as detached springing-stroke, except that instead of the bow being reversed at each stroke, a number of notes are played with the bow springing in one direction. The bow should be given a preliminary bounce by a smart downward turn of the wrist, then gradually moved forward, which will cause several detached strokes as the bow falls after each rebound. For long, quick passages, it is necessary to commence near the point, although not so near that instead of the bow springing, a sforzando is produced; it is not necessary to assist the bow to spring away from the strings in these quick passages, after the initial bounce has been given, the natural spring of the bow asserting itself against the weight of the hand, being sufficient to allow of twenty or more notes being played.

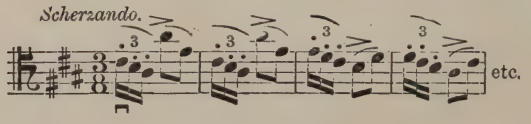
Although the slurred spiccato bowing is expressed in the same manner as solid staccato, the violoncellist will occasionally come across certain passages, which would lose all their charm if played with solid bowing. Ex. 28 will illustrate this. The semiquaver triplet should be executed with three smart bounces with the up-bow; then the bow should be controlled, and lightly drawn for the two tied quavers. The introduction of the two

slurred quavers in this passage, makes it almost compulsory to execute it between the middle and the heel of the bow, it being possible to check the bouncing better there than if playing near the point.

(Ex. 28)

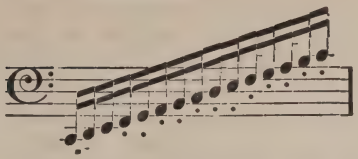


However, to illustrate how the 'cellist must be able to appreciate the subtle differences in various manners of phrasing, or how an artist by a slight liberty, would transform an awkward bowing into one with more character and force, we will suppose the above passage written thus :—

(Ex. 28*a*)

The semiquaver triplet in this case, (Ex. 28*a*), is executed with springing-bow, using the upper third; the bow is then thrown on the string close to the point for the sforzando.

In substituting or inventing the manner of bowing any particular passage, the violoncellist should always take into consideration the character of the composition being performed, not being above considering the generally acknowledged manner of interpreting the works of well known composers. The introduction of any exaggeration in accent, etc., whilst being perfectly admissable in performing compositions by Brahms, Schumann, or Dvorak, would most probably be out of place, if introduced in similar works by Mendelssohn or Beethoven.

SAUTILLÉ.

(Ex 29) 

Although this bowing is often called Spiccato, Springing-stroke, Dancing-bow, etc., etc., it must not on any consideration be confused with the bowing previously described as such, that is the springing-bow applied to passages at only a moderate tempo; the method of production and the effect of these two bowings are entirely different, the sautillé, varying from the heavier class of springing-stroke, in not being produced by any studied action of the right-hand, wrist, or fingers. The work of the fingers in executing this bowing, is merely passive, except perhaps the first finger, which assists in giving the "go" to the bow. No pressure is required; the tone seems to be "pulled" out of the instrument by the bite of the hair on the strings, the springing movement being caused solely by the elasticity of the bow.

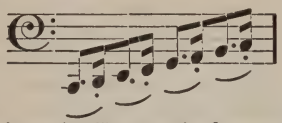
The scales may be practised as Ex. 29, first in smooth semiquavers at the middle of the bow, using about an inch of bow, and without any pressure being applied. The scales should be worked up to a very high rate of speed; when this is accomplished, the student will find that unless he prevents the bow from springing, it wil. commence a kind of dancing movement, although it hardly seems as if the bow leaves the strings. The student will easily recognise the bowing when he has accomplished it, by the distinct picked out character of the notes. Most amateurs who fail to acquire this bowing, may blame their misfortune either to gripping the bow too firmly, thus not allowing the wrist and fingers sufficient play, or being "weary in well doing" with respect to practice. Modern compositions for violoncello abound with this bowing, fine examples may

be found in Am Springbrunnen, Davidoff; Papillon, Elfentanz, etc., etc., by Popper, last movement Military Concerto, and other solos by Servais; in fact nearly all modern player-writers, have composed works which introduce this fairy-like bowing.

Dotted Notes.

Allegro

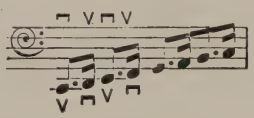
(Ex. 30)



The rhythm given in Ex. 30, is frequently met with in almost every class of instrumental music. It may be bowed in four distinctly different ways. The way mostly adopted, especially in chamber, or orchestral music, where occasionally whole sections of a work have accompaniments for the strings in this rhythm, is to tie the two notes in one bow as marked in Ex. 30, this is done, even if no bowing marks whatever are given in the parts. The upper half of the bow may be used, the bow being almost drawn to the point, then suddenly stopped to allow the semiquaver to have a distinct stroke, for the latter, using about a couple of inches of bow with a wrist movement only.

(Ex. 30*a*)

(Ex. 30*b*)



In solo pieces, and occasional passages in chamber-music, this rhythm may be given one bow-stroke to each note. However, the effect although pleasing, is so assertive especially if executed in a very broad, heavy fashion, that the listener becomes tired before many bars have been played. This bad effect is not quite so evident if the bowing is executed in a light, playful

manner, the very nature of the rhythm is of a gay, frolicsome character, especially in a moderately quick tempo, therefore a dull, solid performance is entirely out of place. In practising the bowing at Ex. 30A, more than a third part of the bow must not be used, and slightly less for a quicker tempo. The semiquaver must have the same length of bow-stroke as the dotted quaver; therefore the bow must move more slowly, and receive more pressure for the down-stroke than for the light up-stroke; for the latter, the bow is carried lightly over the string, with the pressure relieved. The bowing may also be reversed as in Ex. 30B, here the longer note is played with an up bow-stroke, the semiquaver receiving a smart, light, down bow.

Another method of bowing may also be occasionally used, although when compared with any of the foregoing, it will perhaps be regarded as a trifle commonplace. The bow is placed on the strings at the heel; the first dotted quaver receives a down stroke with the heel fourth, the semiquaver being played with an up-bow, using about an eighth of bow; the next dotted quaver again receives a down-stroke with a fourth; thus gaining an eighth at each dotted note, the bow gradually travels to the point. The up-bow may also be used in like manner, commencing at the point and finishing near the heel, the movements being reversed. This method of bowing will be found useful for special passages which have to be executed in a quiet manner, or where the change in bowing thus occasioned is necessary.

CHAPTER VIII.

ON THE POSITIONS—THE INDIVIDUAL REQUIREMENTS OF ORCHESTRAL PLAYER AND SOLOIST — THE NECESSITY OF "STRETCHING" FOR THE INTERVALS —THE LOCALITY OF THE NECK POSITIONS—THE ENHARMONIC DIFFERENCE OF SHARP AND FLAT KEYS — ABSOLUTE PITCH—HOW TO LEAP ANY AWKWARD INTERVAL—THE POSITIONS NOT DETERMINED BY MATHEMATICAL RULES, BUT BY THE "EAR" — SHIFTING — "ECONOMY OF MOTION" *versus* "EFFECT"—CHOICE OF POSITIONS.

POSITIONS, SHIFTING, ETC.

ALTHOUGH learning the various positions used in violoncello playing is neither so interesting a study nor so quickly mastered as are a few of the seemingly more difficult styles of bowing, a thorough practical knowledge of them is absolutely necessary both for orchestral and solo work. It is interesting to note, however, that extraordinary ability in any one direction is generally obtained at the expense of the other branch of 'cello playing. A long experienced orchestral player, although having a complete mastery of the "finger-board," in the matter of being able to play almost any composition at sight, seldom possesses that perfection in bowing requisite for a successful soloist. The chief matters for special attention in the orchestra are time and tune, together with the ordinary "light and shade" effects; and considering the numerous compositions which the orchestral violoncellist must "go" through in one short season only, it is not to be expected that any

great attention can be devoted to the perfection of bowing; or at least to such brilliant bowings as the staccato, and various spiccato effects, which are only heard to advantage when each instrument may be heard individually. The exceptions to this rule, are orchestral players who combine with their orchestral work, much practice in chamber music or solos. The same law is in effect with any who excel greatly as soloists; the solo player may have a greater command of the positions in a mechanical sense than has the orchestral player, but it is seldom he reads so well at sight. The very system of working up to perfection, and memorizing a certain number of compositions, is detrimental to good reading; in fact it may be safely said that the more an artist plays by ear the less able will he be to read at sight. I should think such artists as Piatti, Lady Hallé, Joachim, however, are notable exceptions,—not to the rule, but to great solo players being poor sight readers, but these artists have always combined much quartet playing with their solo work.

The special requirements in respect to positions, of each class of violoncellist, may be stated as follows; the soloist to be successful requires a complete mastery of the practical or mechanical part of playing perfectly in tune, and a perfect command of shifting from one position to another. The orchestral player requires the ability to quickly divine the most suitable positions in which to play any given passage, when seen expressed in musical notation. The successful quartet player must possess to a certain degree, the abilities of both classes. Whatever class of work the student intends to fit himself for, he must gain a knowledge of the positions in a practical manner, *i.e.*, with the instrument in hand. Theory by itself is of no use, the player may know that a certain note will be produced if a given string be stopped in a certain place, but if he is unable to perform the mechanical part, and by exactly gauging the distance to be leaped, stop the note perfectly in tune, the knowledge stands for nothing.

Each position should have separate attention, and the notes obtainable thoroughly mastered both theoretically and practically before another position is attempted. The position most easily learned is the first position (first finger on B a whole tone above the open A string), and as this is in a sense the normal position in 'cello playing, and for ordinary work the most useful owing to its relation to the five open strings, the hand of the student should be allowed to become thoroughly "set" to this position, and facility obtained in stretching the various intervals, before attempting to "shift."

From the commencement, the student should compel himself to *stretch* for the intervals when necessary, and not contract the bad habit of using the thumb as a kind of pivot, on which the hand is moved backwards and forwards, the thumb remaining in the same position. If the student once gets into this habit, his hope of ever playing perfectly in tune, especially in rapidly descending passages, must be abandoned; it is a bad habit, however, which nearly every learner will contract unless strictly watched; and when pupils who have had previous instruction come to me for lessons, I generally have to commence with a series of finger exercises composed expressly for its correction.

The player will find that after a few years of 'cello playing, if the correct system of fingering has been adopted, the bones of the hand (metacarpal) seem to get quite loose, and are under the control of the muscles, so that when the fingers are stretched for a wide interval, they are assisted by the hand-bones, which move direct from the wrist, almost like the action of the metacarpal bone connected with the thumb, only of course in a much smaller degree. This gives a greater width of the hand, measuring across the knuckles, and it is with this capacity that ease in stretching the intervals is arrived at, and *not* with long fingers, as some are apt to imagine. Fingers of more than ordinary length are of no special assistance in 'cello playing, if they are so firmly bound together at the knuckles as to hamper free movement

from side to side; this is one of the chief reasons why it would be so difficult to master a stringed instrument, if maturity should be reached before commencing to learn. Besides the bones of the hand getting gradually bound together with the surrounding muscles and ligaments, if not kept in constant use; the tendons which are plainly discernable at the back of the hand seem to lose individuality, thus we see some aged people who are unable to move any one finger independently to the others. The player must grow to his instrument, and it is wonderful what change does take place in this respect, the whole character of the hand being altered; this has to come about before anything like command of the instrument can be expected.

As a ready way of describing the locality of the various "neck" positions, the names of the notes stopped by the first finger on the A string will be given only. In these neck positions, the thumb remains behind the neck of the instrument, retaining as far as possible the same relationship to the hand as in the first position, already explained. For the half-position, or what is generally known as the back-shift, the hand should move backwards from the first position the distance of half a tone, the first finger will then stop A♯ or B♭. When playing in extreme keys, this half position is very useful, especially when the notes of all the four open strings have to be played sharp.

The distance of the second position from the first is only a semitone, the first finger stopping C. This position also bears a "raised" position, sometimes named the "second-and-a-half position"; although it is easier to designate it the second raised, or if in flat keys the third lowered position. For this position, the whole hand moves forward from the second position, until the first finger stops C♯ or D♭. The third position is distant a tone and a half from the first position, the first finger stopping D. The second and third positions are perhaps not so readily mastered as are the first and fourth, or perhaps even the higher positions; for this

reason they should be all the more perseveringly practised. Not only should the notes which are obtainable in the second and third positions have special attention, the student should practise various leaps from any of the other positions, until he has their exact locality firmly fixed. When playing in the fourth position, the first finger stops E, the hand should be allowed to rest on the ribs of the instrument, this will assist the student in placing the locality of this position. The fourth position bears a lowered, but not a raised position, as there is only a semitone between E and F. The fourth lowered position is identical with the third raised position, the first finger stopping E♭ for the former, and D♯ for the latter form.

The fifth position therefore is a semitone higher than the fourth, the first finger stopping F. From the fifth position upwards to the seventh, the thumb is allowed to gradually leave its position *behind* the neck, until for the seventh position it only touches the side of the lower portion, almost where the neck joins the body of the instrument. However, the thumb should retain its touch, so that the hand may quickly assume the necessary attitude for the lower positions when required. For the fifth raised position the first finger stops F♯.

In the sixth position, the first finger stops G. The fingers are now in advance of the thumb, also the student will observe that in these higher positions, the distance between the notes gradually grow smaller. It is now possible to stop three notes separated by intervals of whole tones (major 2nds), with the first, second, and third fingers, and not as in the first position, compulsory to use four fingers to stop three notes. The sixth raised position is taken with the first finger on G♯. The seventh position is the highest neck position practicable, the first finger stopping A.

To sum up, we find that there are seven ordinary neck positions, the fundamental notes of which on the A string, are directly related to the diatonic scale of C. Also there are six half-positions, each position bearing a

"raised" form, except where the fundamental note of two positions is only separated by a semitone. This occurs in two instances, *i.e.*, between the leading-note and tonic of the C scale (first and second position), and between the mediant and sub-dominant (fourth and fifth positions). These five raised positions, together with the backshift, gives us the six. Together with this, each position bears a normal, and a "stretched" form, for the former in the lower positions, the fingers are allowed to fall naturally at the distance of a semitone apart; for the latter the thumb (behind the neck of course), and one or more fingers remain in the position, the first finger being stretched backwards, or the third or fourth fingers stretched forwards, or both.

I am aware that some theorists may object to the method of assigning the same position to say B♭ and A♯, on the principle that B♭ is lower in pitch than A♯. However, if the matter is thoroughly looked into, we shall find that the system of portioning out the finger-board with mathematical exactness, and giving to the various groups the names of positions, is really under the control of another system. This system, which is found to be the chief factor both in singing in tune, and in giving the stringed instrumentalist the power of playing in tune, for want of a more comprehensive title might be named "relative pitch." The student if sufficiently advanced may easily prove this to himself in the following manner.

Reverse the usual position of the instrument, that is, instead of having the fingerboard turned away, place the 'cello in such a position that the whole length of the fingerboard may be viewed from before. Now endeavour to point out the position of any given note, it will be found that an entirely wrong conception has been formed of the distance between the intervals, and it will be almost impossible to place the exact position, where any isolated note could be sounded exactly in tune. Perhaps more success will be experienced in

placing the position of a few of the easier divisions of the string, like the harmonic at the half-string, but strange as it may appear, the attempts to point out the exact positions of notes even in the first position, will, in nearly every case, be complete failures. If the reader has had much experience in teaching the 'cello, and has become accustomed to judge the distance of notes by eye measurement, he must be considered an exception to the above. This proves to us then that the eye has, or should have, nothing to do with gauging the distances to be leaped, or stretched, for the various intervals. It is here that a wonderful faculty is found to exist in the trained violoncellist; this faculty is obtained by the wonderful connection between the fingers and arm movement, and the "ear," or more correctly, the brain. At first sight it appears very wonderful how any given interval between two sounds may be reduced down to measurement, and have its tonal character represented by a physical movement, but with long practice the movements of the arm and fingers become so perfectly under control, and work in such sympathy with the brain, that the act of conceiving the character of an interval, and its production, seems almost to be accomplished by the same brain action. This applies only to the production of one note in relation to another, or to the position of a note in relation to a fixed position, and not to isolated notes. How then is the 'cellist to establish the pitch, and decide the position of an isolated note, if in such a high position that no guide is given to the hand, such as is noticed in positions like the fourth? Although pursuing this subject has the appearance of leading us away from the chief matter of the present chapter, it is of such importance to the instrumentalist to know exactly how to obtain any isolated note, and as it is so much more easily explained at the present stage, it will be better to consider it straight away.

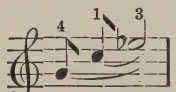
The brain must have some basis whereon to build up an expectation relative to any isolated sound. Thus, if a solitary note is represented on the music page, say E♭,

the brain not having any fixed sound whereby to place the tonality of E♭, no expectation is raised as to its probable pitch; to bring this to practice. A pianist striking the one note E♭, on the piano, would feel quite satisfied with the pitch of the sound produced, whether the piano should happen to be tuned a quarter of a tone either below, or above concert pitch. This statement is open to challenge by the upholders of the theory of absolute pitch; I am well aware that a *few* musicians have this gift of absolute pitch, and perhaps a greater number still, from long practice with one fixed sound—like the singing master with his C tuning fork—are able to guess the pitch of that one sound with moderate success, but for a musician to have the pitch of all the range of sounds so thoroughly established, as to feel a sense of disappointment if an isolated note was sounded either slightly above, or below concert pitch, is almost an impossibility, if such an one does exist he must be considered an exception to the above. It may be accepted as the general rule, that until one note is heard, no expectation is raised as to any given note. The 'cellist, therefore, not having any fixed notes like the pianist, would be completely at sea, especially if a composition should commence on a note in rather an awkward position, say on the E♭ above the A half string. If an introduction in the accompaniment preceded, the 'cellist would be able to tell after the E♭ was sounded, whether he had happened to hit on the right position, but it would hardly be edifying to the audience to commence the note slightly out of tune, and shuffle to the correct pitch, after the accompanying chords were struck, nor would they appreciate a series of introductory grace notes leading to the required position.

It is here that the faculty of gauging the distance of a *known* interval, taking the required note by a leap from some equally well known position, is brought into force. If the 'cellist has just previously tuned his instrument, the sounds of the open strings will be still fresh in his mind, dispensing with A, D and G, the C being the

nearest related to E♭ will be immediately seized upon, and a conception of the interval to be leaped (a minor third above the third octave), will be firmly established. After this the process is chiefly mechanical, the move may be made from any position the exact locality of which the student is thoroughly acquainted with, exactly as if leaping from a note in that position to the required E♭, as—

Ex. 31

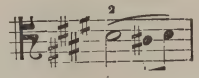


4th Position

(The bow not to touch the strings until the E♮ is firmly stopped with the third finger, the grace notes merely show from which position the leap is made.)

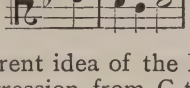
The student should carry out this principle for all difficult leaps, and not seek for the position by gliding up, or down to it. However "to return to our sheep," this system of relative pitch affects the performance of flat and sharp keys in the following way, as an illustration the different manner in which B♭ and A♯ is treated, although both being in the back-shift, or half position, will be demonstrated.

Ex. 32



In the first bar of Goltermann's Cantilena (Example 32), the first finger is on A♯ in the back position, the character of the accidental following the B♮ is such, that the musician seems almost compelled to sound this note as near the B as possible. It would irritate a musician with a well trained ear, to have anything but the smallest interval between the two notes, he will therefore quite unconsciously make the A♯ as "sharp" as possible, which conclusively proves that there is not

any necessity for forming two positions for these enharmonic differences.

Ex. 33 

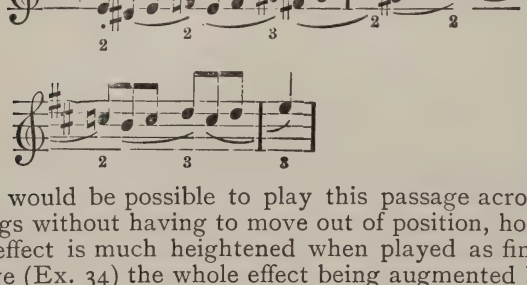
Here we have a different idea of the B♭—the equivalent to A♯. The progression from C to B♭ (Example 33), instead of giving one the idea that the B♭ should be drawn to the C, has the opposite effect; a sense of satisfaction is only felt, when the largest possible interval between two tones is made between the super-tonic and tonic. With the second B♭, the feeling is to glide quietly off the leading note on to the tonic, making the least possible interval. Thus the B♭ is pushed down by the C, and again drawn down by the A, making it impossible with any sense of satisfaction to play it in anything but its "flattest" form.

All this will be evident to the cultured musician, to whom these remarks may appear somewhat superfluous; but to the learner, who has not arrived at that stage of ear perfection, when the half-flat, half-natural style of playing flattened notes is a positive annoyance, the hints may be of service in teaching him that anything short of absolute correctness with respect to playing in tune is not to be tolerated.

With respect to the choice of positions, so many things are to be taken into consideration that only general hints may be given. The golden rule is—"Never move into a more remote position than is absolutely necessary." In slow expressive passages, everything must give way to allow of correct phrasing; thus to preserve a uniform quality of tone throughout a particular phrase, it will sometimes be necessary to work along one of the lower strings up to the sixth or seventh positions, in preference to using the next higher string. In orchestral work, and generally in quick movements, the chief matter to consider, as previously stated, is "economy of motion," but even in quick movements "effect," which

may be considered the counterpart of the generally accepted term of "expression," has also to be taken into account. Occasionally a kind of verve or vigour, or sometimes a certain daintiness in effect is produced, if instead of playing a passage in the quietest way, it is taken along the string. A striking example of this may be seen in the first movement of the Goltermann concerto in D, op. 100.

Ex. 34 *Allegro*



It would be possible to play this passage across the strings without having to move out of position, however the effect is much heightened when played as fingered above (Ex. 34) the whole effect being augmented by the octave passage which follows, gradually working upwards until the climax is reached on the high E harmonic. There is yet another matter which I am well aware in really high art should not find a place: that is the manner in which a complete mastery over *seen* difficulties affects an audience. We are told that musicians should reach their audiences through the ear and not the eye, but when one considers the numerous class of compositions which have been written solely to display the brilliant technique of the soloist, or to show the possibilities of the violoncello as a solo instrument, and that many of these works are written by really great composers, the fact is forced to be acknowledged that this phase of our subject must be considered.

It will be found that many passages in such compositions are, when analyzed, found to be quite worthless

in a musical sense, the only excuse for their introduction being that they offer a good chance for the player to display some brilliant feats in bowing or fingering. Therefore in playing pieces of this description, it would not be wise to sacrifice brilliance, for the sake of an easier and consequently a quieter method of fingering. From the foregoing remarks it will be gathered that various matters must be taken into consideration, especially by the soloist, when finally deciding in which positions to play any composition. The mechanical difficulties which are patent to the violoncello, must not be allowed to interfere with the phrasing of a melody, or with the musical significance of an idea. Nor in the other direction, the violoncellist must not overload any passage with effects, simply because the 'cello happens to be especially adapted for such, without any real warrant that such graces or additions are intended. This applies particularly to the introduction of the glide, which will be next treated.

CHAPTER IX.

PORTAMENTO—THE VARIOUS USES OF GLIDING—SOME EXAGGERATIONS EXPOSED—HOW TO LEAP GREAT INTERVALS WITHOUT "HOWLING"—COMBINATION OF GLISSANDO AND SFORZANDO.

PORTAMENTO.

THE subject of gliding, although referring more directly to phrasing, is so nearly connected with shifting and the choice of positions that one is insensibly led into its treatment. A melody should never depend on the characteristics of an instrument for its effectiveness, although much individual charm is given to a composition by such characteristics being allowed to assert themselves without spoiling the intentions of the composer. Thus the phrasing should never be marred just because it is convenient or inconvenient to introduce that connecting link, the glide. I shall in this chapter endeavour to explain a few of the many methods of gliding, and the reasons why one method is used in preference to another; their practical application will be learned, partly from a knowledge of phraseology and musical form, and also from experience. The human voice is supposed to be the most perfect musical instrument—if one may so term it; all instruments which are made by man having in comparison some imperfection. Thus, it is impossible on the pianoforte to commence a sustained note *piano* and gradually swell out to forte, nor is it possible to glide one note into another, although much may be done in this direction by causing the note to *sing* in such a manner, that one note seems to be sustained until the next has been

tenderly approached. Each note has to remain fixed as far as pitch is concerned, the idea of gliding only applying to the "thickness" of the tone being varied when quitting one note and approaching the next. The latter remarks apply also to wind instruments. No matter how small is the break between two notes, or in what manner art is introduced to conceal or in any other way attempt to make up for this deficiency, it is yet there, and to a great extent must influence the interpretation of a composition. The violoncello resembles the human voice perhaps more than any other instrument. The character of the tone in certain portions of its register is very similar to that of the human voice, and without going too far, it may be said that it is possible to produce nearly all the varied effects of articulation of which the voice is capable, except actually speaking. Thus the variation in tone which singers produce by a clever management of the breath, the glide when two notes are sung to a vowel sound, the hard sound of an initial consonant, the vibrato, and numerous other effects are all possible on this most human instrument. However, as far as gliding is concerned, the 'cello has a big range, and far more is expected from the instrumentalist, in the way of leaping to and from notes at extreme distances, than is ever expected from a single voice. The vocalist performs similar skips by an unconscious, and to a certain extent, involuntary contraction of the various small and delicate muscles in the larnyx. The 'cellist has sometimes to make a sweep of the whole length of the fingerboard, or to break the flow of the melody by leaping over one or more strings. This then will show the imperfections of even the most perfect instrument made by man when compared with the voice; the 'cellist must endeavour by the aid of art to overcome, or conceal, the bad effects which may be caused by the mechanical difficulties of his instrument, and taking the voice as an example endeavour to interpret a composition in the same manner as would a good vocalist, imitating as closely and truthfully as

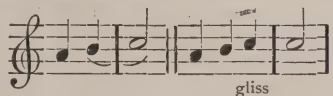
possible the phrasing and the various effects which one observes in singing.

Some professors of the strictly classical school condemn all gliding as faulty; the finest of these players are noted for their perfect intonation, but are also noted for their lack of sentiment. Any exaggeration in the opposite direction, however, tends to undue sentimentality, and to an unprepared audience will have most disastrous results. It is well known that the player may so accustom himself to glide on to the notes, that any amount of exaggeration in this respect seems quite right. The player should regulate his performance according to the manner in which the absence, or too great a prominence, of the glide in the playing of others affects him; this is the only safe way to judge, as the effect on the listener is always more pronounced than on the player.

In almost every melody there are places where every musician feels compelled to dwell on the interval between two notes, sustaining the one note, and retaining the advent of the other; this "expressive" kind of glissando, besides being the most pronounced in its effect, is consequently the most objectionable if incorrectly used. On the violoncello it is produced by playing two notes with the same finger, gliding slowly from one position to the other. This glide must never be used to connect two notes which are separated by a large interval, as a most unpleasant howling will be occasioned; the only places where it may be introduced are at a cadence, or at the full close of a musical composition, where the terminal note of the phrase is reached by a descending passage, and then it must only be taken on an interval composed of not more than one or two whole tones at the most.

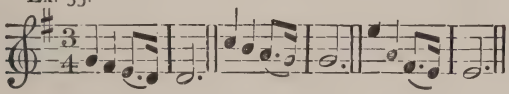
Vocalists generally make the most of this glide to sustain a passionate delivery at the close of a vocal piece, and indeed it has a very disturbing effect on the listener. This effect may be described as being occasioned in the following manner; in accordance with the musical structure of the composition, the listener ex-

pects a certain note to be sounded, thus when the close of a composition is being approached, the listener naturally expects the tonic (key-note). Naturally therefore, anything which delays the tonic—whether it be a slight ritard, a sustained trill, or the seeming unwillingness of the player to quit the note preceding the tonic, although having an exciting influence over the listener, makes the appearance of the final note more acceptable and the consequent rest and satisfaction more complete. I must here caution the reader against gliding to the tonic from the leading-note, that is unless the identity of the tone is afterwards firmly established by being played again on an accented part of the bar. If the



Bad Correct

examples here given (Ex. 35) are studied, it will be

Ex. 35.

seen that in each case the terminal note of the phrase thoroughly establishes itself on the ear by being twice sounded, first on an unaccented beat, then on the strongly marked portion of the bar. The ear requires this to give it the necessary assurance of the identity of the tonic. In ascending passages the approach to the tonic from the leading-note is by so small an interval (half-tone), that the arrival at the close must always be distinct, the introduction of the glide on so small an interval, would give the appearance of the tonic being played out of tune.

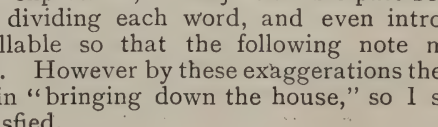
The glide in each case (Ex. 35) is made on the two notes connected with a slur.

The glide of next importance is generally introduced in imitation of that produced by vocalists when two

notes are taken on a vowel sound ; the only difference to be observed by the 'cellist is that the interval, and consequently the glide, must not be so strongly marked. The same method of fingering as that given for the gliding previously explained may be used, but as this glide is sometimes taken on notes at extreme distances, the bow must be nicely managed, and the shifting done firmly and rapidly so that any unpleasant howling is not too much in evidence.

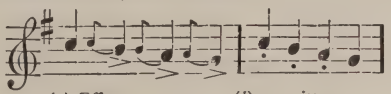
The introduction of this gliding is really a matter of taste, the only uses with which it can be credited in instrumental music, are to lend a certain amount of tenderness to a melody, and also to connect any wide intervals or isolated notes, which otherwise would spoil the phrasing. The two foregoing methods of glissando may be termed the only styles of gliding which are introduced solely for effect in an "active" sense, the remaining styles of gliding are merely passive in their nature, and are introduced to cover the defects of the instrument, in the way of bridging over any awkward leaps caused by the necessary length of string to be covered. Before proceeding, I would here caution the student against blindly following all the exaggerations in which even our best vocalists occasionally indulge. A short time ago I heard a well known tenor sing the song "Annie Laurie," the last line of which was given after this fashion.

Ex. 36



The glide to and from the top F was quite correct, and indeed very expressive, the objectionable part being the manner of dividing each word, and even introducing another syllable so that the following note may be anticipated. However by these exaggerations the singer succeeded in "bringing down the house," so I suppose he was satisfied.

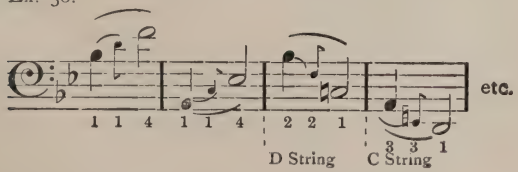
This is almost akin to the method adopted by some instrumentalists to heighten the effect in a passage made up of detached notes. Instead of changing the bow-stroke at the moment the leap is made, during a slight break between the notes, the method is to change the bow-stroke before the first note is quitted, then glide rapidly to the next note, at the same time producing a sforzando; the effect is seen in Ex. 37.

Ex. 37

(*a*) Effect (*b*) as written

I mention this solely to caution young players against unconsciously forming a habit which is at once incorrect and vulgar, and although players of the first rank in the height of their passion may sometimes employ this artifice to more fully express their feelings, it would be unwise for one of lesser musical standing to attempt that which great artists only employ on sufferance. The most ingenious method adopted by stringed instrument players to cover a great expanse of string, without either chopping up the phrase or giving too much prominence to the glide, was, I believe, first given by Spohr; it may be explained as follows.

In an ascending passage, the player must always have at liberty one of the fingers to stop a higher note than that produced by the gliding finger, so that the gliding has not to cover the whole distance of the interval (see Ex. 38). In descending passages the reverse takes place, the glide being executed with the third or fourth finger, the first or second fingers being retained to stop the lower note on the arrival of the hand in position.

Ex. 38.



The grace notes in the above examples must not on any account be heard. To prevent any possibility of this, the finger stopping the second note must be firmly placed almost before the gliding has ceased, the introduction of the grace notes in the above examples being merely to illustrate the method of carrying the glide up to the necessary position, then firmly stopping the required note.

Other methods of gliding have to be invented for special passages, or for the production of extraordinary effects. One of the most surprising effects is to combine the sforzando with a strongly marked glide, the sforzando being given on the second note of the slur, and the glide being of the most pronounced type. I have heard our great violinist, John Dunn, occasionally give vent to his feelings in a slightly exaggerated glide and sforzando combination of this description, and for waking up a sleepy or apathetic audience, I can strongly recommend it.

Beyond all these hints, and far removed from any explanation, there remains that delicacy of feeling which the artist alone can introduce into his playing—that subtle management of bow and fingers, so necessary to really fine playing. Even in the matter of gliding this is easily recognised; the varying speed at which the glide is taken, the pressure put on the strings or otherwise, accenting the commencement of the glide and lightly approaching the second note, or lightly gliding off the first note and strongly accenting the arrival at the second; the varying pressure brought to bear on the bow, etc., etc. All this must come from natural feeling, and cannot be taught, no matter how clever the teacher or how willing the pupil.

CHAPTER X.

DOUBLE-STOPPING—USEFUL IN DEVELOPING THE HAND —HOW TO DETERMINE THE FINGERING OF VARIOUS INTERVALS — GLIDING IN DOUBLE-STOPS—CHORDS —A CORRECT MANNER OF PLAYING CHORDS.

DOUBLE-STOPPING.

IN consequence of the great distances which separate the notes in the neck positions on the violoncello, nothing very extraordinary is written, or is expected in the matter of double-stopping. However as a training for the left-hand, there is nothing to equal a series of well planned studies in double-stopping; by practising such, the student obtains a command of the various "stretches" necessary for a correct use of the fingers of the left hand. Dotzauer, in his famous studies, seems to have recognized this, and by the regular, systematical introduction of double-stopping exercises of varying and increasing difficulty, almost compels the absolute development of the left hand. In practising double-stops, the student must always be careful to cause equal pressure to be applied by the bow to both strings, so that each note of the chord is distinctly heard. Some young players on the other hand, instead of requiring to be urged to do this, are unable to give two strings a continued even vibration, without expending an undue amount of force, but this is really so elementary a matter that a little practice on the open strings (sounding them in twos) should easily set right. Beyond this the player should have all the varieties of light and shade

just as much at command in the bowing of double-stops, as in playing single notes.

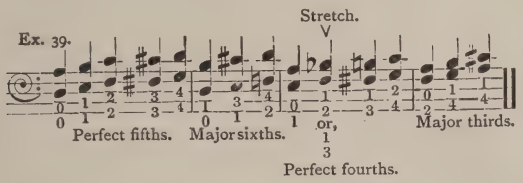
With respect to the left hand, the chief difficulty which first assails the student is that of judging the character of the intervals, and for their production—in knowing exactly in what "form" the hand should be; thus in certain chords the hand has to assume its most "stretched" form, for others the normal, or closed positions of the fingers are necessary. This knowledge is really of great importance; both notes of a chord must be sounded simultaneously, therefore even before the chord is approached, the player must be conscious of the "form," as well as the position in which the hand has to be, in order to play any combination of notes. A few of the easier chords in double-stops may readily be learned in the following fashion:

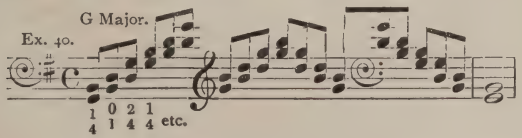
Taking the fifth as the basis, it will be evident that if any finger be placed horizontally across two strings, in any part of the instrument, a perfect fifth will be produced. To accomplish this the student will have to depart from the rule respecting the stopping of notes with the tips of the fingers, as it is impossible to produce a fifth except with "flat" fingering, or of course the open strings.

From this it will be an easy matter to settle the fingering of a major sixth; in the first position, a major sixth may be produced by using a lower open string, and the first finger on a higher string, thus in any position the fingering of major sixths is obtained on the same principle, viz., the higher note is fingered a whole tone in advance of the lower.

The same method may be taken to obtain the fingering of a perfect fourth. In the first position, using the open string, a fourth in double-stops is produced with the open string for the higher note, and the first finger on the next lower string for the lower note; here the lower note is fingered as far as position is concerned a whole tone in advance of the higher note. Major thirds in the neck positions, have to be played with the "set" fingering of

fourth and first; using the fourth finger for the lower note and the first on the next higher string for the higher note.

A little time expended in the study of Ex. 39 will clearly illustrate the preceding remarks, and at the same time will prove conclusively, that if double-stops are only treated according to their harmonic worth, that is as perfect fifths, fourths, major and minor sixth, thirds, etc., the difficulties of extreme keys, and positions, will in a great measure be cleared away.

Thus in any position the relation of two notes (providing the harmonic value is the same) remains undisturbed, the only difference in the fingering being in the lower positions where the open strings are utilized, and the only modification being in the very high positions, where the gradually decreasing distances of the intervals render the use of the fourth finger unnecessary.

Before attempting anything great in the matter of double-stopping, the student should practice various scales in sixths, thirds, etc. (both notes being sounded together) and also any possible arpeggi in double-stopping, after the manner of Ex. 40.

The student will not find any published arrangement of arpeggi in this form, but he may easily construct them for himself, using only the tonic, mediant, and

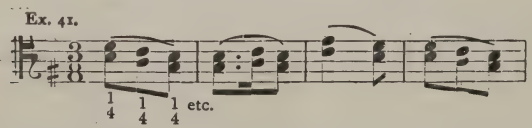
dominant of the key. It will be found that a little practice in this direction will amply repay, as to accomplish the playing of arpeggi in double-stopping without scrambling and with the intervals correctly in tune, means a command of the positions truly remarkable.

In reading works composed chiefly of double-stops, it is at first rather difficult to decide in which position any passage should be played. The progression of both "melodies" has to be watched, as well as the intervals which separate any given two part chord, the fingering is also affected by the preceding and the following chord, as well as by the introduction of passing notes, or such ornamentation as trills, turns, etc., in either of the parts.

With respect to shifting, leaping, etc., in double stops, owing to the choice of fingering being curtailed, the player must be careful that no unpleasant howling is thus caused.

In passages composed of thirds (slurred), the player must leap firmly and rapidly from one chord to another, and where necessary withdraw the pressure from the bow, so that although the passage is yet slurred, the connecting glide is not too much in evidence.

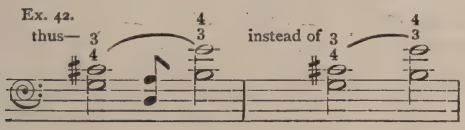
Ex. 41.



A striking example of the need of this advice is found in the Military Sonata by Boccherini in G (Ex. 41). This passage is played throughout with the first and fourth fingers—that is the first finger plays the upper melody, the fourth finger playing the lower.

It will be evident that the beauty of the above melody will be destroyed if no division whatever is made between the notes. This must be accomplished without spoiling the legato effect of the three slurred quavers. A skilful management of the bow may also serve to hide

a difficult and awkward move; thus in cases where the fingering is reversed for two succeeding chords (Ex. 42), it is liable to let the open strings be heard during the changing of the fingers, especially if a big leap has to be made to reach the second chord. This will be very slovenly, and on no account must be allowed.



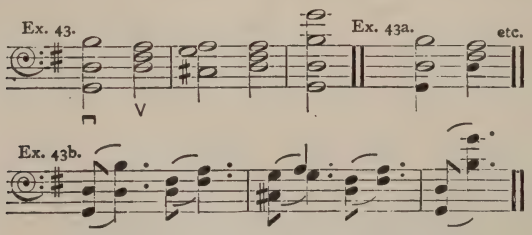
The portamento may be introduced in double-stopping progressions for effect, but more knowledge and judgment is necessary for its successful use than in single melodic progression. It is generally safe to introduce it on two chords taken with the same fingering in different positions, with the exception, of course, of whole passages in thirds, etc., like the "Menuetto" in the Boccherini sonata previously mentioned.

Occasionally, when moving from one position to another, it will be found advisable, or necessary, to let one of the parts cease, until the required position is gained, the glide being executed between the upper notes only; the player must study any such special passages, trying them over in various ways, until he is perfectly satisfied that the correct, and yet most effective method, is arrived at.

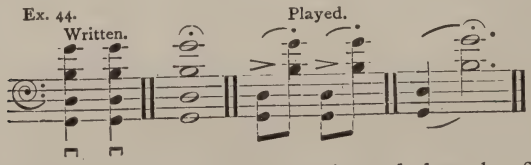
Chords.

Owing to the arching of the bridge, it is impossible to sustain more than two notes during the whole stroke of the bow. Therefore, three or four part chords are only possible as "broken" chords (Ex. 43). A bold attack is necessary to play chords at all effectively, the fingers of the left hand should be placed simultaneously on the strings, the necessary changes in fingering for a succes-

sion of chords, being accomplished rapidly and neatly during the moment of reversing the bow-stroke.



It is general to explain that although chords are written as in Ex. 43, yet it is only possible to play them as in Ex. 43*a*. However, if the chords have to be played in strict time, it will also be evident that even this method cannot be followed—each minim would receive three beats, one for the two lower notes and two for the two upper. A correct way of portioning out the time to be allowed for each couple of strings is shown in Ex. 43*b*. The student should here count four quavers to each chord.



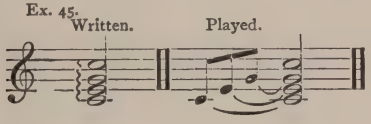
In some cases the chords are intended to be firmly and smartly struck, such as repeated chords at the end of a brilliant allegro, the chords should be divided, allowing half the time for the lower strings and half for the upper, and instead of sustaining the upper portion, the bow should be immediately taken off the strings, thus allowing them to vibrate freely and vigorously (Ex. 44). Chords of this description are usually taken with down bow-strokes. The player should take care, however, not to make the chords sound too harsh, or crabbed.

CHAPTER XI.

ARPEGGIOS—THEIR EVOLUTION FROM VARIOUS CHORDS—THE BOWING OF ARPEGGIOS.

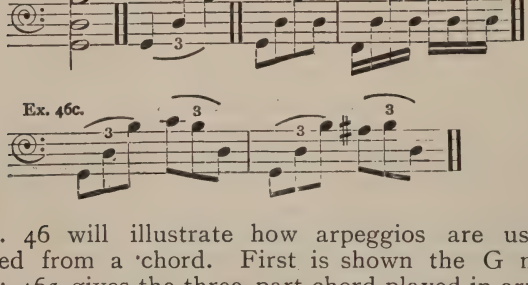
ARPEGGIOS.

ARPEGGIOS are chords, the notes of which are sounded separately. A modified way of expressing that chords are to be played in arpeggio, is by placing a curved line immediately preceding the chord, thus :

Ex. 45.

Key arpeggi are formed from the common chord, that is the tonic, mediant and dominant; they may be practised as running arpeggi in three octaves. These arpeggi are published for 'cello in a very useful form, together with the major and minor scales, etc., by the St. Cecilia Music Publishing Co.; the arrangement is by Coward Klee.

The notes of a chord which are to be played as arpeggios, are sometimes interspersed with notes foreign to the chord in the form of passing notes, and nearly

always one or more notes of the chord are reiterated (Ex. 46).



Ex. 46 will illustrate how arpeggios are usually evolved from a chord. First is shown the G major triad; 46*a* gives the three part chord played in arpeggi form; 46*b* has the mediant and the dominant repeated, and 46*c* introduces the C and the A♯, both notes being foreign to the harmony, but used as passing notes. Many otherwise difficult passages, are rendered quite simple to the student, who only considers of what chord the scattered notes form the harmony.

In playing arpeggios the hints previously given in the remarks on the "Left hand," "Positions," "Double-stops and Chords," concerning a correct management of the left hand fingers are applicable. The remainder of the present chapter will be chiefly devoted to the management of the bow, in several of the standard forms of arpeggio.

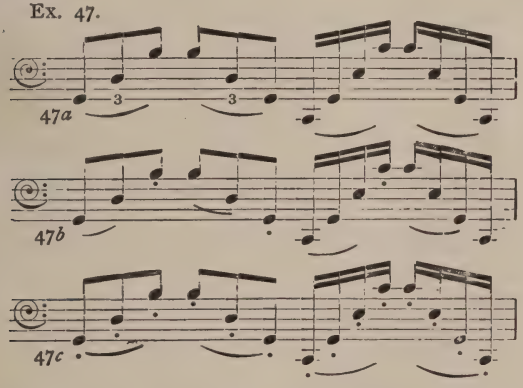
Arpeggios (Bowing).

The manner of bowing the various forms of arpeggio, offers difficulties of a peculiar nature to the student; this is chiefly occasioned by the crossing and recrossing of the strings, which although greatly adding to the possibilities and brilliance of many of the various modes of phrasing, also in most cases adds to the difficulty of a quiet performance. A thorough knowledge of the arm and wrist movements which are brought into use in approaching any of the four strings with various parts of

the bow, and with either up or down bow-stroke is essential; this knowledge is not to be gained by hard practice, but rather by a careful analysis of the "mechanics" (if the word may be used in this sense) of simple bowing.

The end to be kept in view should be to accomplish the crossing of the strings in as quiet a manner as possible, that is with a minimum of effort; as an aid to this, wherever possible the elbow and upper arm should be held in a quiet position near the side, the changing of the bow from one string to another being chiefly accomplished by a wrist movement, or by a slight upward movement of the fore-arm.

Ex. 47.



Arpeggios on three or four strings phrased as Example 47*a* should be played with alternate down and up bow strokes, always attacking the arpeggio commencing with the lower string with the down bow. For a moderate allegro, about half the bow's length may be used, the two middle fourths (upper and lower) being the most serviceable; the bowing should be as smooth as possible, each note being of equal length; in the triplet arpeggio the customary accent on the first of each group

must be observed, and in every case the groups should be quite distinctly separated.

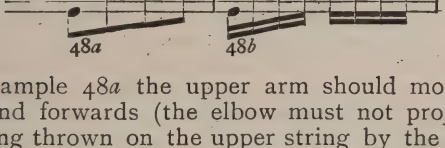
In mixed bowings as Example 47*b*, the same quantity of bow stroke must be used for the detached note as for the slurs; the detached quaver or semiquaver in each case being taken with a light up-bow.

Exercise 47*c* is a very brilliant style of bowing, yet generally very easy to acquire. The bow is thrown with force for the first note of each group, then with a nicely regulated wrist movement, assisted by the fore-arm to allow sufficient stroke, the three or four springing strokes fall, one for each note. Any slovenliness in the management of the wrist will result in some of the notes being missed, and others obtaining more than one of the springing strokes. Although this style of bowing is expressed exactly as solid staccato, it is very seldom that arpeggios would be played other than with slurred spiccato, the unhelpable roughness which accompanies a short staccato stroke on an open string, renders the solid staccato impracticable for passages regularly crossing the strings. This bowing is often used with alternate groups of smooth slurred bowings.

Example 48*a* is a style of phrasing which should always commence with the up-bow; the reasons for this are as follows. Foremost and most important is that the wrist action which one observes in reversing the bow from an up-stroke to a down-stroke, may be utilized to serve the double purpose of changing the bow-stroke and leaping to the A string; this could not be accomplished in so quiet a manner with the reverse stroke. If the above phrasing was commenced with the down stroke, it would be necessary to make two distinctly separate movements to reach the A string; one, a wrist movement from side to side to reverse the stroke, the other an upward movement of forearm and wrist, to obtain the necessary elevation which will allow the bow to leave the D string and touch the A. Another reason is that the nearer the heel of the bow is approached, less leverage and consequently less arm

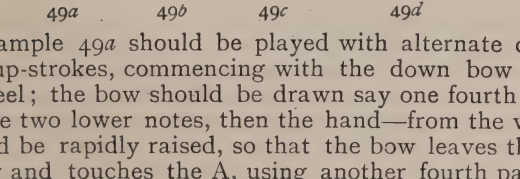
movement is required to cross the strings; this is counterbalanced by the lack of control over the bow at the heel in rapidly changing from one string to another. The bowing should be commenced slightly nearer the point than the middle, especially for Example 48*b*, so that the spiccato semiquavers may be played at the middle of the bow, with a wrist movement only.

Ex. 48.



In Example 48*a* the upper arm should move backwards and forwards (the elbow must not project) the bow being thrown on the upper string by the wrist as previously explained. The student should play an arpeggio phrased as above, at the same time carefully analyzing each arm and wrist movement; he will thus realise the importance of utilising every movement to assist in giving a quiet and finished performance.

Ex. 49.



Example 49*a* should be played with alternate down and up-strokes, commencing with the down bow near the heel; the bow should be drawn say one fourth part for the two lower notes, then the hand—from the wrist, should be rapidly raised, so that the bow leaves the G string and touches the A, using another fourth part of the bow for the two upper notes. The second chord commences with the up-bow, at the middle.

A good, broad effect is generally intended with this kind of bowing. To produce this, only the slightest possible gap must be allowed in changing the bow from

one string to another, thus giving the impression that two notes are constantly being sounded; sufficient pressure must be applied to the bow to cause the whole width of the hair to touch the strings, and an equal division allowed for each part of the arpeggio.

It is possible to produce a very brilliant, heavy effect with the bowing at Example 49*b*; it should be commenced with the up-bow near the heel, using a very heavy spiccato stroke, the two upper notes receive a down stroke. It is also possible to execute it commencing with the down-stroke, but if played in this manner it is difficult to get sufficient power on the two upper strings, as well as more time being wasted in changing the bow from the down-stroke to the up-stroke (see explanation of Example 48*a*).

The bowing at Example 49*c* is a style of phrasing which one often comes across, especially in brilliant solo pieces; it is sometimes wrongly written as Example 49*d*, that is, with three spiccato notes to each bow; if executed in this manner it is safe to say that the effect will be exceedingly tame. In solos, concertos, etc., and for heavy passages in chamber music, it will be necessary to give the first note of each group a heavy down-stroke (spiccato), the remaining two notes being played with the up springing-bow; in this manner the strokes are all given near the heel of the bow, the metrical accent on the first note of each group being effectively produced with the heavy down-stroke.

Other styles of arpeggios bear more or less similarity to those which have here received treatment, with a little thought the student should now be able to determine which will be the most effective way of bowing.

CHAPTER XII.

GRACES AND EMBELLISHMENTS—THE USE OF THE THUMB—EXTENSIONS—OCTAVES.

GRACES AND EMBELLISHMENTS.

THERE are various embellishments in use, some of which are expressed in notation, such as the cadenza, the group of grace notes, the appogiatura. Others are expressed by signs. The most important of these are the trill, or shake (tr), the praltriller, or short shake (𝆖), and the mordent, or turn (𝆔 or ∾ according to the variety). Besides the above, and not included in these two divisions, are numerous graces, or ornaments, which perhaps come under the head of effects, and both in their introduction and their manner of execution, are left entirely to the player. Under this head may be mentioned the close shake, or vibrato, and the vocal effect produced by changing the fingers on a stopped note, or playing two notes of the same pitch in different registers of the instrument.

Considering the largely increasing quantity of literature which deals with the elements of music, wherein most of the above graces are treated, it will be useless to again go through an explanation of them. It will be necessary, however, to deal with one or two matters relative to their execution on the violoncello.

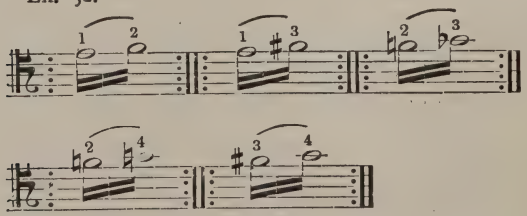
It used to be customary for singers and instrumentalists to take more liberty in the introduction of graces and embellishments than is allowed in modern times, or is possible with modern compositions. The early Italian vocal school must be held responsible for many early extravagances in this direction. The representa-

tives of this school, fitted as they were by nature, climate, language and training, for brilliant vocalisation, never lost an opportunity of displaying their wonderful feats of execution; in the opera even the simplest melody being overloaded with trills, turns, grace notes and especially by the introduction of long bravura passages, in the shape of variations on the melody, or as cadenzas. An amusing instance of this was the competition between Farinelli, the celebrated singer and a trumpeter (Rome, 1723), which took place before a large and enthusiastic crowd. I suppose each of these artists tried to outshine the other in the brilliance of their improvised cadenzas and coloratura passages. With the exception of added cadenzas in some concertos, it is not now considered good taste to embellish a composition—even the simplest melody, by the addition of anything to the written notes. The modern artist, especially the instrumentalist, must content himself with his individual treatment of what is before him, depending solely on this, and the beauty of the composition for his effect.

The Trill.

To acquire a good trill on the violoncello, the student should practice trilling with each finger, commencing very slowly at first, then gradually increasing the speed. Each finger should be perfected separately, the fourth being generally the weakest, will require more attention. The following exercise (Ex. 50) if properly practised, should be the means of perfecting the student in this essential and pleasing ornament.

Ex. 50.



To study this exercise properly a week should be devoted to each figure, that is to say, one figure must be fairly well perfected before the next is attempted; the student should devote several minutes at various times of the day to its practice. This system of dividing the time devoted to the practice of a mechanical study like the perfection of the trill, will prevent the muscles being over exerted. In slow movements, especially on a long sustained note, a good effect may be produced by commencing the trill slowly, then gradually increasing the rapidity of the beats. In quick movements the trill should be generally commenced and continued quickly.

The chief beauty in the introduction of the pralltriller and the various turns, consists in throwing them into the melody without disturbing the time or phrasing; to acquire this ability, the student may first play the passage without introducing the turns, etc., then when the structure of the phrase is clearly grasped, the embellishments should be added. As a good concert composition which may be of use both in acquiring a neat method of introducing the turn, or of displaying such accomplishment, may be mentioned the "Arlequin" by Popper. It is very pleasing and fits the instrument.

The Vibrato.

The vibrato or close shake is produced by shaking the left hand from side to side, the finger tip—which stops the note on which the vibrato is produced,—forming the pivot. The soft fleshy cushion which forms the tip of the finger, seems to grip the string, and should not on any account be allowed to slide out of tune; thus the effect must never be so exaggerated as to allow the beats to be varied in pitch, the result should merely be a kind of throbbing.

A good effect is produced in a sostenuto theme by commencing the vibrato slowly on a crescendo note. As the crescendo gathers in force, the throbbing of the vibrato is increased in rapidity; much practice is necessary to accomplish the gradual increasing or

diminishing of the speed, without any break being observable in either the increasing of the tone, or the vibrato beats. The natural law with respect to the variety in vibrato effects may be given as follows. A note low in pitch, or a note played *piano*, requires a slow vibrato, a higher note, or a note played forte and passionately, requires a rapid vibrato. The student must be cautioned not to introduce the slow vibrato too freely, although he may see many players constantly wag the hand in sustained or passionate passages, this is not always done to produce a vibrato effect, but is often intended to give a thrilling tone by a clearly defined stopping of the note.

The Cadenza.

The cadenza may be said to range from the group of notes taken *ad lib.*, to the brilliant virtuosic cadenza introduced, or added to concerto compositions.

The first form is generally used as a connecting link between one section of a composition and another, and although the time is marked *ad lib.*, the student should always strive to correctly phrase these little solo passages in accordance with the character of the movement or composition, so that the desired effect may be given.

The latter and "big" form of cadenza, is generally given to allow the performer an opportunity to show his skill, although Schumann did not favour this idea; the cadenza to his 'cello concerto being merely a few bars of recitative leading into the brilliant coda (finale), in other compositions he adhered to the same idea, the cadenza being thoroughly and wholly "Schumann," without any attempt to serve as a means of display. In compositions where the cadenza is not written out, the player is expected to supply one; this should be constructed from motives taken from the work, the skill of the player being shown in the manner in which these motives are treated. As the composition of a cadenza will necessarily be of a free character, the introduction

of brilliant arpeggios, double-stops and rapid scale passages all skilfully woven around and connecting the motives introduced, may be taken as the basis on which to work.

Grace Notes.

Grace notes expressed in groups of small notes are not essential in any great degree to the musical structure of a composition, they are supposed to add to its effectiveness; the success of their introduction and their chief charm, consists in throwing them into the melody with ease. Sometimes a ritard is made, especially in song-like compositions, so that the grace notes may be played quite deliberately; in other pieces where strict time is essential, the time must be stolen from the note which precedes or follows. It may be accepted as a general rule that the grace notes should not delay the enunciation of a heavily accented note, so that the rhythm may remain undisturbed.

Pizzicato.

Notes are played pizzicato by pulling the strings with the fingers, instead of causing their vibration with the bow; the player should grasp the bow firmly at the nut with the little finger, and perhaps the third finger, according to the requirements of the pizzicato passage.

In scale passages it is wise to use the first and second fingers alternately for the purpose of plucking the strings, the thumb resting on the edge of the fingerboard as a support for the hand. For arpeggios and chords, the thumb may be used for the lower string, and the fingers for the upper strings. Chords in rapid succession are best played by striking across all the four strings with the thumb and first finger alternately; when the thumb is used, the lower strings receive the first vibration, the higher strings being struck first when using the first finger; the chords should be struck so smartly that the four strings seem to vibrate simultaneously. The advantages of this method is that with each motion

of the hand a chord is sounded, thus, when using the thumb, the hand moves from right to left, returning from left to right when using the first finger.

In all pizzicato passages the strings should be plucked in such a manner that they oscillate from side to side during their vibration; if they are allowed to snap against the fingerboard, the sound will be instantly checked. The student should remember that taste may be brought into play in the method of executing pizzicato passages. It is not necessary to play all the notes with one volume of sound; a crescendo on a series of notes can be produced quite as effectively as with the bow. In chamber music there is often a better opportunity for the display of taste in the execution of pizzicato passages than in solo compositions; pizzicato passages in the latter being generally introduced for display rather than accompaniment.

The Use of the Thumb.

A knowledge of the correct use of the thumb for the purpose of stopping notes on the violoncello, is of the utmost importance to any who wish to have anything like command of the instrument. It is quite certain that the 'cello would not be anything like the perfect instrument it is, if the player was confined to the neck positions. As already explained, the neck positions only extend to a couple of notes beyond the half-string. When it is necessary to go beyond this, the thumb is taken from its position behind the neck of the instrument, and firmly placed in a horizontal position across two strings, thus stopping a perfect fifth.

The student should attend very carefully to the hints here given respecting the part of the thumb which actually stops the strings. The first joint of the thumb should be slightly bent outwards, the higher string should pass across the side of the thumb just under the root of the nail, the strings being about half-an-inch apart, the lower string will be that distance nearer the tip of the thumb. On no account must the thumb be so

placed that the higher string interferes in the slightest with the joint of the thumb: this would make it impossible to quickly slide along the strings without disturbing the relative positions of the two strings. Continued practice with the thumb will form two grooves on the under side of the thumb, exactly the width of the strings apart; when this comes about, no inconvenience will be experienced either in rapidly sliding along the strings, or in putting on sufficient pressure. A common experience with students first learning thumb positions, is the feeling that the fingers are too long. To remedy this and also to gain sufficient weight on the fingers, some young players will allow the knuckles to protrude and the finger joints to bend inwards. I have noticed this time after time in pupils, even when they have overcome the same difficulty in the neck positions. In a short time the hand will get accustomed to the change of posture, in the meantime the knuckles must be kept quite flat, and the finger joints bent outwards. When the muscles, which have hitherto remained idle, are fully developed, the player will be able to put sufficient pressure on the strings without any assistance from the weight of the hand.

With respect to the introduction of the thumb; it is not always necessary in the high positions to use the thumb to actually stop certain notes, occasionally certain scale passages occur which may be fingered as the ordinary scales—that is, with the thumb following behind at the distance of a tone. However, the most important reason for rejecting the thumb for speaking notes and "fingering" the passage, is that of phrasing. In expressive movements, exactly as one finds it necessary in the lower range of the instrument to leave out the use of the open strings, or play in a higher position than necessary, so in the high thumb positions the same unity of feeling must be observed by a nicely arranged system of fingering. The reason for an objection against the indiscriminate use of the thumb in slow cantabile passages, is that the tone produced

when the note is stopped by the pressure of the thumb, is not of the same character as that produced when the tips of the fingers are used. Perhaps it takes a very fine ear to distinguish this difference. In quick movements it is not discernible, but on a sustained note the tone produced by the thumb is to a great extent colourless. That there should be a difference in tone is hardly to be wondered at, when one considers the acute sensibility of touch at the finger tips. It is possible that the necessary varieties of pressure, or more accurately, "touch," which are requisite to a soulful performance, may be more readily accomplished with the tips of the fingers, owing to a greater concentration of nerve matter there than at the side of the thumb, but this we must leave to physiologists; those whose ear is so delicately formed that they notice these slight varieties in tone colour, will perhaps be thankful for the hint whereby a soulful manner of fingering and phrasing in the high positions may be acquired. The fear of being thought dogmatical in this work, prevents me giving examples of this method of fingering in the thumb positions, as, of course, each player will naturally adopt the system which suits his style the best, but to the student I would advise that the passages are phrased exactly as one would sing them, entirely irrespective of strings or positions; using the finger tips in preference to the thumb for the speaking notes wherever possible.

In quick movements the use of the thumb is indispensable. In many cases one is compelled to use it even in the lower neck positions so that certain passages may be possible.

Extensions.

The use of extensions, that is, the fingering of certain notes which are foreign to the position in which the hand is placed, is of more frequent occurrence in the thumb positions than in the lower range of the instrument. To a great extent these have to be studied as special passages. However, each passage of this des-

cription thoroughly mastered, will make similar passages easier and assist in giving a greater command over the fingerboard. To acquire a general knowledge of these extensions, the student may practise a series of "running arpeggios" in the various keys, similar to those given by Coward Klee in his arrangement of scales for 'cello. The student may play them in three or four octaves according to the possibilities of the instrument.

Octaves.

Octave passages are usually played across two strings, with the thumb and third finger, the thumb stopping the lower note on the lower string, and the third finger stopping its octave on the higher string.

The most difficult progressions in octaves are those which are played in unison, that is, the higher and lower notes being sounded simultaneously—the slightest faults in intonation are here most painfully evident. Where the octaves are sounded separately, one part moving independently to the other, the difficulty of intonation is nothing near so great.

Occasionally one comes across octave passages which are either impossible to be played in the usual manner of thumb and third finger—or else sound better to be played with different fingering. An example of the former is met with in Popper's well-known "Elfantanz." This is an extremely brilliant descending passage in octaves, with the ninth used as a passing note. Here the octaves are played with thumb and *second* finger, thus leaving the third finger free for the added ninth. An example of the latter exception is the final octave passage in the Rondo of the favourite Beethoven Sonata for 'cello (No. 2). This passage, which remains in the lower range of the instrument, sounds much more brilliant if taken as an ordinary passage across the strings, than if attempted with the usual octave fingering.

CHAPTER XIII.

THE SCIENTIFIC BASIS OF HARMONICS—SOME PECULIAR LAWS WHICH GOVERN A VIBRATING STRING—"NATURAL" AND "ARTIFICIAL" HARMONICS—THE MANNER OF BOWING HARMONICS.

HARMONICS.

IN considering harmonics, the names of two of the greatest violin players the world has ever seen force themselves to one's mind:—Paganini and Spohr; the exponents of two schools of violin playing as diametrically opposed to each other as darkness is to light. Paganini the wierd, fiery Italian, astonishing the world with hitherto undreamt of effects, not the least marvellous in the eyes of critics and multitude alike, being his wonderful command over every possible form of harmonic playing. Spohr with his solid, classical, German temperament, attempting nothing out of the established limits of real, solid playing, countenancing nothing which the "great in music" before him had not accepted and stamped with their hall-mark. Considering this, and also that Spohr may have been annoyed at the allegiance which nearly the whole music-loving public were only too eager to pay to the Italian violinist, it is not to be wondered at that he should find it necessary to denounce the whole art of harmonic playing as trick playing and unworthy of a great artist. One can hardly forgive Spohr's description of harmonic tones as "foreign and childish"; they certainly are entirely different to the tone produced by stopped notes, but this very difference, instead of condemning them,

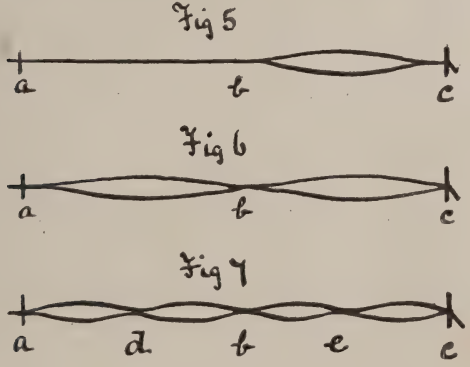
should rather recommend them to the instrumentalist as another means of adding variety, that essence of life, to his playing. It is really surprising what an electrical effect on an audience has a well executed passage in harmonics; "harmonics excite wonder"! true, but if well played they also excite enthusiasm.

Spohr is to be praised for his recommendations to young violinists not to neglect that which is useful, in the prosecution of the study of harmonics; young violoncellists please attend to the advice! yet every player should be thoroughly conversant with the science of harmonics even if he has to defer perfection in the art of their production until a later period. "Harmonics" are described as "the accessory sounds generated with the predominant and apparently simple tones of any vibrating string or column of air." Science teaches us that a single note is impossible; immediately a note is sounded, certain tones more or less related to the fundamental note, are generated. These overtones may be distinctly heard if one of the open strings of a good old violoncello is vigorously sounded; as the fundamental note decreases in power, the harmonic over-tones will be easily heard in their order of production—first the octave, then the fifth to the octave, then the major third to the octave above. Another method of hearing these harmonics is by causing a note in unison with one of the open strings of the violoncello to be sung, or played upon some other instrument, the string in unison with the note sounded, through sympathetic vibration will give out the overtones only, as previously described. However it is not these fleeting overtones which demand our attention, although they form the natural basis to the whole matter, it is the production of harmonic tones in the form of independent or primary notes. To accomplish this on the violoncello the string must be touched lightly with the finger at certain places, not as for the production of a stopped note, by pressing the string firmly against the fingerboard, but by allowing one finger to lightly rest upon it with sufficient "touch"

to divert the vibrations. It will be found that only at certain places are harmonic notes possible. These places are called nodes or nodal points; they are to be found at the mathematical divisions of the strings into halves, thirds, quarters, etc. The class of harmonics produced in this manner are termed "Natural Harmonics." As each string gives out the same notes relative to the pitch of the open string, one description will suffice.

If a string is lightly touched at its half length during vibration, the octave to the open string will be produced; at one-third or two-thirds its length, measuring either from the bridge to the nut or *vice versâ*, the fifth above the octave; at one-fourth or three-fourths the double octave; at one-fifth, two-fifths, three-fifths and four-fifths the major third above the second octave; at one-sixth and five-sixths the fifth above the second octave, and at one-eighth, three-eighths, five-eighths and seven-eighths a harmonic note three octaves above the open string will be produced. The difference between the vibration of a musical string during the production of a stopped note, and a harmonic note is of sufficient interest, and of enough importance to merit description. Most of my readers will be aware that when the string is pressed firmly against the fingerboard for a stopped note, the portion between the finger and the nut does not vibrate, the string is practically shortened to the dimensions of that portion which lies between the finger and the bridge; when a harmonic note is played however, the finger being lightly placed on the string merely diverts the vibration; the whole length of the string vibrates, the part between the finger and the nut assisting as actively in producing the note as the part between the finger and bridge. The following rough sketch will illustrate this more clearly than is possible in words alone; Fig. 5 represents a vibrating string; (*a*) is the nut, (*c*) the bridge, the string being stopped at its half length (*b*), the only portion which vibrates is that between (*b*) and (*c*). Fig. 6 represents

a harmonic note produced at the half string (*b*) in this case the whole string vibrates yet the string is divided into two equal parts, the part between (*a*) and (*b*) vibrating in unison with that between (*b*) and (*c*). The student will here see the importance of keeping all the fingers quite clear of the string except of course the one producing the note, so that the vibrations may not be impeded. So far this seems quite logical, it is in proceeding further that one realizes the wonderful laws which govern the production of harmonics. Fig. 7



represents the string touched lightly at its fourth part (*d*) or (*e*) giving the harmonic note two octaves above the open string; the student will observe that it is quite immaterial whether the fourth be calculated from the bridge or from the nut; the vibrations in each case will be thus:—If the string is touched at (*d*) the portion between (*d*) and (*c*), that is between the finger and the bridge, will naturally divide itself into three equal parts, each part vibrating in unison with the part between (*a*) and (*d*); again, if the finger is placed at (*e*) the part behind the finger, that is, the portion of the string between (*e*) and (*a*) will divide itself into equal parts in

like manner. One of the fourth parts is to be found at (*b*); how is it then that if the string is touched there a harmonic note of lower pitch than those given out at the first and third fourths is produced? The reason is that the portion of string at each side of (*b*) being of equal length, the string naturally divides itself into halves; we have found that this gives the octave to the open string. The student may work out for himself the reason why the fifth above the second octave is only playable at the one-sixth and five-sixth parts and not at the two-sixth, three-sixth and four-sixth, and why the third octave is not possible at the two-eighth, four-eighth, and six-eighth parts.

Artificial Harmonics.

The name "artificial" is used merely in contrast to "natural," they are only artificial in the sense that they are produced on an artificial or "made" basis, instead of being in the key of the open string.

If one was restricted to the use of natural harmonics it would be impossible to play scale passages, or any passages foreign to the key of the four open strings. However by causing the string to be shortened by the employment of a stopped note the pitch of the fundamental note may be raised to any desired height, the harmonics being produced exactly as before, on the fresh root thus formed; the harmonic being in the key of the shortened string. In playing artificial harmonics on the violoncello it is usual to employ the thumb for the stopped note, the third finger should then be caused to touch the string lightly at one of its nodal points, the distances of course being now calculated from the thumb to the bridge. Owing to the sometimes great length of string between the stopped note and the bridge it is often found impossible to use any but the smaller divisions, the form most often met with being harmonics produced by fourths, that is, the third finger touching the string at the interval of one fourth (stopped note) above the thumb: the harmonic thus produced will be

two octaves above the pitch of the note stopped by the thumb. Whole passages are written for this form of artificial harmonics. To the student who has thoroughly mastered octave passages in stopped notes the technical difficulties presented ought to be easily conquered, as the same technique really suffices for both; the only difference being that whilst octaves are played across two strings—artificial harmonics by fourths are played with the same fingering and the same intervals on one string.

With respect to the bowing of harmonics, the peculiar manner in which the string vibrates during the production of harmonic notes must be taken into consideration. It is important to notice that the vibration of the string near the nodal points is the least intense (see double lines in diagram), whereas the part mid-way between the nodes vibrates with the greatest intensity; if the bow is caused to pass near one of these nodes it may possibly give a greater vibration to that portion of the string than is required, which would have the effect of displacing the natural division, and placing of the nodes, thus causing confusion or perhaps another harmonic than the one intended to be produced. It is general to give an all round rule that in playing harmonics the bow must always be drawn close to the bridge, the student will comprehend that the smaller the division of the string used to produce the harmonic, the greater need will there be to attend to this rule. The progression of harmonic notes should be clearly defined; in passages composed wholly of harmonics it may sometimes be found advisable to use a down bow-stroke for each note, slightly striking the commencement of each harmonic; this will give the necessary attack, and will cause each note to ring out clear as a bell, providing the fingering is correctly managed.

Harmonics are indicated in various ways, sometimes causing much confusion and indecision as to what is really required; thus in a single composition it is possible to find the real notes which are to be produced

being given with the word "harmonique" or "flageolet" or sometimes the sign O (usually employed for natural harmonics) added, the player to produce the harmonics as he pleases; again the position of the node which produces the harmonic will be indicated by a blank note, the pitch of the harmonic to be produced being left to fate and the performer. To indicate artificial harmonics it is usual to write the stopped notes as an ordinary passage, then with the aid of blank notes the positions where the string has to be lightly touched are shown.

CHAPTER XIV.

SPECIAL EFFECTS — "TRICK STACCATO" — VARIOUS METHODS OF PRODUCING CHROMATIC SCALE PASSAGES—"SUL PONTICELLO" BOWING AND "BOWED" HARMONICS—FLAUTANDO—PIZZICATO GLIDE AND GRACE NOTES!

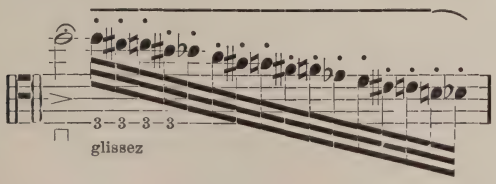
SPECIAL EFFECTS.

THERE are various effects possible on the violoncello, which one often finds introduced in modern solo compositions, but on which most works on the art of violoncello playing are strangely reticent. Some of these effects may perhaps come under the head of trick playing, but as they are to be found in the works of such masters as Servais, Davidoff, Popper, etc., it will be advisable to devote a little time to their consideration.

Servais—who is credited with doing more by his compositions and playing towards giving the violoncello a firm standing as a solo instrument than any previous writer, and perhaps any subsequent player-writer with the exception of Popper—makes free use of most of the effects here treated.

The most common effect, generally known as "trick staccato," may be explained as follows :

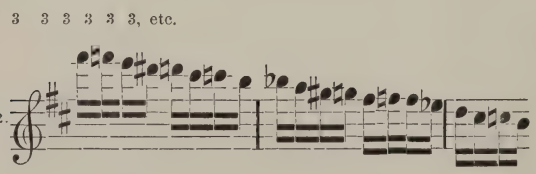
Ex. 51.



The left hand takes no part in the division of the notes, the third finger merely gliding from the highest note of the passage, down to the open A string; the finger should press uniformly on the string, the division of the notes being accomplished by a nervous tremolo movement of the fore-arm which causes the bow to proceed in a series of rapid jerks.

The right hand wrist remains fixed, the pressure on the bow being almost uniform. The above kind of staccato must not be confounded with solid staccato. It is possible to attain a very high rate of speed in a passage as Ex. 51 if executed as explained, but apart from this, the effect is entirely different than if performed with solid staccato, even if it were possible to play the passage as rapidly with the latter form of bowing. Another kind of chromatic passage produced wholly by a bow movement may be found in Davidoff's "Am Springbrunnen" and Popper's "Elfentanz." The following (Ex 52) is taken from the latter work.

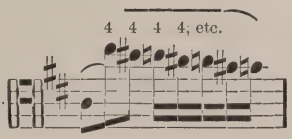
Ex. 52.



The finger should glide along the string as previously explained, the division of the notes in this instance being accomplished by a rapid spiccato movement of the bow, producing a series of short detached strokes. In a passage of this character it is impossible for either player or listener to discern whether the exact chromatic scale is actually played; the only method to approach anywhere near a faithful interpretation of the passage, is by a correct division of the bow strokes in groups of fours, at the same time carefully regulating the speed of the gliding finger. It will be evident that the gliding

must be more rapid when the lower positions of the instrument are reached than in the high positions; thus in commencing the above passage (Ex. 52), the notes being nearer together in the higher positions than in the lower, the hand should move correspondingly slower; the movement becoming more rapid as the passage proceeds.

A third method of producing a chromatic passage—this time, however, with the left-hand, without any assistance from the bow for the division of the notes—seems to be a speciality of Servais. It is introduced both in slow portamento effects and rapid chromatic passages.

Ex. 53.

The bow should be drawn as for a long sustained note, the division of the notes being caused by a series of rapid jerks performed by the left hand. The finger should sustain the pressure on the string during the whole passage, the movement is similar to that explained as the method of producing the vibrato, with the addition of the forward or backward progression of the hand according to the requirements of the passage. The passage may be played with any finger, but it is advisable to use the fourth finger for a descending passage (see Ex. 53) and the first or second finger for an ascending chromatic run. It is also here impossible to attempt to play the real notes except in very slow passages; to execute a rapid chromatic as above, the player should merely grasp the time of the semi-quavers, and regulate the distances for each movement previously as explained.

The same effects as above examples are also possible in octaves, they are produced in a similar manner.

Sul Ponticello.

A style of bowing which seems to be either very little understood, or very much neglected, is "sul ponticello" bowing. In string quartets, orchestral music, etc., a very fine effect is possible if all the players execute it in a proper manner. The bow should be drawn quite close to the bridge, with only medium pressure applied, the stroke should be performed more rapidly than ordinary bowing. This bowing executed by a number of strings gives a very weird effect, the only objection to its use being that if great skill is not used, the string, instead of vibrating as a whole, will vibrate in segments, thus giving out one or other of the natural harmonics. It is stated that Paganini used to play certain passages in harmonics after the above manner; harmonic tones may be produced on any stopped note, by the bow alone, as follows. The bow should be drawn very lightly across the strings near the bridge, the left hand fingers firmly stopping the notes; various harmonics may be produced with one fingering by slightly varying the position of the bow, moving it slightly nearer or away from the bridge. Except for special passages, which are really intended for this kind of ponticello harmonic playing, it is not advisable to introduce it; the slightest irregularity in the position of the bow on the string will alter the harmonic notes to a great extent.

Flautando.

Of more real use than the preceding, is the bowing sometimes styled *sotto voce*, or more properly "flautando"; the tone produced by this manner of bowing is of a beautiful soft flute-like character, and serves as a grateful change to a continued hard tone. It is accomplished by causing the bow to be drawn near the fingerboard, and without any pressure being applied; the strokes should be drawn much more rapidly than for the usual way of bowing, the change of bow-strikes being accomplished almost unheard. It is practicable for any sustained cantabile theme, especially if the tone is to be

kept *piano;* great freedom in bowing must be obtained before anything like perfection be arrived at, the only objection to its introduction being the manner in which phrases are "chopped up" if bowed in this manner; this, however, is more apparent on paper than in the performance, as if the bowing is skilfully managed it is possible to reverse the strokes without any perceptible break in the tone, the phrase being as continued as if executed with one sustained bow-stroke.

Pizzicato Effects.

Various effects are possible in pizzicato playing, such as the close shake, the pizzicato glide; the latter if done well has a very good effect, especially in chord passages, the fingers should glide to the next chord almost as soon as the strings are plucked. Grace notes are also possible in this manner; the string is plucked for the grace note, then the finger rapidly glides to the principal note during its vibration; the string only being plucked once for the two notes or chords.

CHAPTER XV.

DELIVERY — STYLE — "FORM" *versus* "FEELING" — CONCEPTION — ESSENTIALS OF A "FINE" DELIVERY —ORCHESTRAL PLAYING.

DELIVERY, STYLE, ETC.

UP to the present chapter the student has been instructed how to interpret and perform that which he sees on the music sheet before him ; to give a soulful and intelligent reading of any composition, he must look beyond the mere written notes, and see if it is not possible to discover some *meaning*, some effect which the composer has been unable to express in musical notation.

True music is conceived in the mind of the composer, in some more or less perfected form, before any attempt is made to transfer the ideas to paper. Of course each composer has his individual way of working, thus Beethoven never was without a note book in which he jotted down any bits of melody or any musical thought which occurred to his mind during his perambulations. Among these ideas may be found the leading themes from which some of his greatest compositions were afterwards developed. Mozart gives us an instance in the extreme opposite direction ; it is stated that this wonderful composer carried the whole of a sonata for violin and pianoforte in his mind without a single note being transferred to paper, the composer taking part in a public performance of the same with only a duplicate of the violin copy at the pianoforte.

The student must keep in mind that the composer writes his thoughts; perhaps the reader is unable to conceive the difficulty of transferring to paper the musical thoughts which come unbidden to the mind; to write the notes is simplicity itself, but how impossible to write a melody so that every inflection of tone power, every slight change in tempo, and more than this the exact sentiment which the music should convey. To some people—perhaps to some players—music is merely the sounding of a variety of combinations of sounds, in various rhythms; it expresses nothing more than that. Emotion, sentiment, must not be given a place in the musician's vocabulary, anything which does not appeal solely to the intellect we are told to consider vulgar and sensual. Luckily for the string player these superior people are in a minority, the multitude are yet swayed, and to the end will continue to be moved by a melody sung or played from the heart.

Perhaps it is possible to find a parallel in art; one contemplates a beautiful geometrical design; clever, intricate, graceful, but how much better are we for its contemplation? Has it conveyed any truth? Is it possible to move a crowd either to tears or laughter? Is it possible to awaken either warlike or peaceful feelings in the breasts of the observers? How much greater to portray feelings than forms, thus a picture which depicts love, hatred, happiness, misery or gratitude, must be considered greater than a mere figure study. In landscape painting it is greater to reproduce *living* nature than mere studies of trees, sky, etc.; thus the painter who makes us see the driving snow, the rushing torrent, the beating rain, the fitful gleam of sunlight or even the passive stillness of the wood, conveys impressions to our minds, not only impressions of nature, but of certain states or moods of nature.

Compare some of the music by such as Romberg to that of Beethoven or Schumann; the first merely studies in sound, the latter brimful of thoughts, impressions, which appeal to the intellect of the performer, and test

his musicianship by the manner in which they are expressed or overlooked.

The student should remember that all good music is composed with a strict observance of its effect on the listener; this does not mean that Beethoven wrote a scherzo for the sole purpose of causing people to feel jolly, any more than he wrote a funeral march or an adagio solely to make people sad. In all Beethoven's music, as in that of other great masters, the listener is purposely compelled to pass through various states of mind; where necessary the addition of a movement or section in quite a contrasting mood is purposely made, so that the mind of the listener is prepared for the ensuing movement. The composer writes what inspires him at the moment, but his greatness is shown in the manner in which these themes are contrasted and varied, so that the interest of the listener is sustained throughout the whole performance. This must be considered in the delivery of a musical composition. "It is the effect on the listener which one must constantly have in mind," no matter how turbulent are the feelings of the player, if the passion does not find its way into the delivery, the audience will be quite unaware of the fact. How is this to be accomplished? In reading aloud or reciting, if one only observes the ordinary rising and falling of the voice at the division of the periods, marks of interrogation, etc., it would be hardly possible to say that one read with expression. There is something more than this school boy elocution required; does not an orator hurry an impassioned passage, and drag a doleful one, does he not shout a command and whisper a tender sentence. So if the musician merely observes the rhythmical and dynamic effects, the performance may be correct, yet it will be void of soul, and of that force which carries along the hearer.

Exactly as in elocution, the performer must first grasp the intention of the composer before a soulful interpretation is possible; it is just this "conception," this grasp of the composer's meaning, this transforming of

the groups of sound into a real living performance, which at once reveals the real genius. It is quite true that genius must be trained or it will fall into many errors and exaggerations, there are many who, guided by feeling alone, put such an amount of individuality and what is commonly termed expression into their performances, that the listener, led away by the rush of passion, overlooks the many errors with which the performance abounds. It is for the student to cultivate a style which shall satisfy the most refined tastes, at the same time infusing as much of his own personality and feeling into the delivery as the nature of the composition will admit. It is a difficult matter to give any absolute rules for the guidance of young players, let us, however, consider what constitutes a fine delivery.

The first essential is beauty of tone; it is recorded of Jenny Lind—an artist with a reputation more unique it would be difficult to find—that the quality of her voice was of such beauty that even the ordinary diatonic scale sung slowly, was enough to create the utmost enthusiasm. One writer describes the pleasure experienced from hearing the *tone* of her voice only, as that obtained by the sight of pure, brilliant colour; thousands who heard this great singer were melted to tears, even when the work was quite unintelligible to the majority of them; this was occasioned chiefly by the natural pathos in the tone of her voice, added to a personality as simple as sincere. The performer should always consider that "tone" is the fundamental matter with which he works; as a rule "tone" is generally thought to mean "big" tone, but this is not necessarily so; beautiful, sweet, brilliant tone should be the aim, big tone if possible, but never at the expense of quality, variety and phrasing.

The next matter of importance is a correct conception of tempo; as some writer has remarked, "it is possible to transform a scherzo into a funeral march by a wrong conception of tempo." This is a matter of great importance, but also a matter in which some of our finest players and conductors differ to an alarming extent.

In the case of solo players this may be excused, as the tempo which may suit the characteristics of one player would perhaps be quite dull if adopted by a soloist with quite a different style. In the case of conductors, however, it is to be feared that much of this difference arises from a desire to be thought original, even at the expense of all tradition. In determining the tempo of a composition the character and general build of the work itself is the only guide.

The third essential is a faithful reproduction of all the dynamic effects marked by the composer, as well as all the varieties in tempo such as ritards, calando passages, accellerandos, etc., etc.; beyond this may be again mentioned the different varieties of tone, the playing of certain passages on one string in preference to another, artificial shifting for the purpose of a correct phrasing, the increasing or retarding of the tempo other than marked by the composer; these latter liberties are only applicable to compositions of the lyric or romantic type, in the delivery of which it is needful to introduce the emotional element, and are not intended to be introduced in compositions which depend solely or chiefly on rhythm for their effect. Under the latter head may be classed mazurkas, tarantelles, etc., and nearly all dance movements, except those of the sentimental type.

The fugue also comes under the same head, it is possible to express rhythm in musical notation but not emotion, and it must be remembered that the fugue is the outcome of a highly trained intellect, and not the outcome of inspiration in its independent sense. The fugue is really "paper" music, it is possible to write more than could possibly be imagined, this also applies in some degree to pieces of a highly contrapuntal nature. In concluding this part of our subject it may be recommended to the player to learn to anticipate effects—to hear in advance that which he is about to play. "Expression is the manifestation of impression," if the performer is not sensitive to the generating causes of expression—if these make no impression on him, it will

be impossible for him to feel what he is playing, this system of reading in advance allows the performer to thoroughly grasp the musical phrase, and to give it a sensible intelligent treatment. In playing at sight, or in the performance of concerted music, this is of great importance.

The foregoing remarks on individuality of interpretation do not apply to the performance of concerted music; in playing trios, quartets, and especially in orchestral work the performers must sink their own individuality, for the sake of the general effect: in orchestral playing, purity of intonation, a strict and decided division of the notes, and especially in large orchestras, what may be termed an exaggerated interpretation of the dynamics, must form the basis. All artificial shifting must be dispensed with, gliding along the strings must also not be indulged in, except in some unison passages where all the players can decide to finger the passage in the same manner; passages marked "piano" must be played throughout "piano," and not as in solo work, be varied by slight crescendos, etc., according as the passage rises or falls, etc. The reader will readily understand that a theme played pianissimo by a half-dozen 'cellos will have an entirely different effect than the same theme played by one instrument, even if the same body of tone is produced. A number of instruments playing in unison impart a grandeur to a passage which is quite characteristic; it must be remembered that composers have this effect in their minds when writing for strings in the orchestra. The conception of the work and its manner of delivery rests entirely with the conductor, each player for the time being must accept his reading, and be as subservient to the will of the conductor as are the keys of a pianoforte to the fingers of the musician.

In concluding it is as well to remember that we are not all constituted alike; some are born to be leaders, they have will, individuality, originality; others are more fit to be lead, they can accomplish much under

the guidance of some master mind, but if left to themselves are utterly useless.

To place a fine solo player in an orchestra would be equal to compelling the general of an army to serve in the line. The reverse is not always the case, there are many who although brilliant and successful in the orchestra are useless for any other branch of playing. Let each one perfect himself in the branch of art for which he is most suited; exactly as it is impossible for a musician to be "master" of more than one instrument, so it is impossible to arrive at perfection in every branch of music. There are many fine solo players who have had long experience with the orchestra, but they have been soloists in spite of this.

THE END.

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